# EDITORIAL

## DOMESTIC ENGINEERING

Whole No. 1515 CHICAGO, DECEMBER 24, 1921 Vol. 97, No. 13

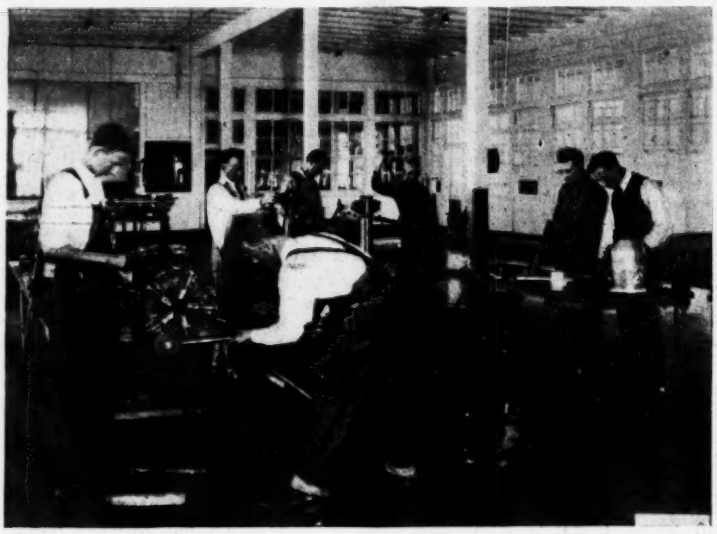
FOR centuries Christmas has been the time of year for the exchange of friendly greetings; the time when the spirit of cheerfulness and goodwill prevails. It is also a time when families get together and gather around the fireplace to exchange reminiscences of the past and to daydream pleasantly of the future. DOMESTIC ENGINEERING most sincerely wishes its family of readers the heartiest of yuletide greetings and asks you all to gather around in a little friendly get-together chat. Let us forget for a moment the grind of business battles, the struggle for advantage, and all the petty differences that sometimes occur in so large a family, for a family we are. The contractors, the jobbers, the manufacturers, the trade papers, and all other members of the trade, all have interests that are so interwoven that what affects one must affect all, and what aids one class to any great extent is pretty certain to aid the others. It is a pretty fine family, and as we look back over the past year we can point with pleasure to some important progressive steps. Various sound practical movements have been carried on for the betterment of the different branches of the trade, and, what is of equal if not even greater importance, is the fact that several movements on a large scale have been conducted for educating the public regarding the accomplishments and problems of the plumbing and heating fraternity. The results have been very beneficial and the good work should be maintained. The old feeling of ill-will toward the craft in general, created through misunderstanding and the unfair acts of a few, is being disappear and is being replaced by one of friendly understanding and support. DOMESTIC ENGINEERING has tried to help in these movements and in various other things that are for the betterment of the trade as a whole. We would like to do still more, much more. However, we must all work together in order to accomplish the greatest good. During the year we have received many helpful suggestions from our readers, which we appreciate, for we want this to be your paper. We would like to have you feel still more free to offer suggestions and criticisms, for in this way we will best be able to serve your interests, and your interests are our interests. Just drop us a line occasionally and tell us what you like and what you don't like, and make any suggestions that you feel would make your paper still more valuable to all, and you may be assured that your ideas will be given most respectful consideration. We did not want this Christmas editorial to be entirely one of wishes, for wishes in themselves are such feeble things. We do hope that you will have a very pleasant Christmas and that the New Year will be a happy and prosperous one for you, but we wanted this little chat in order that in talking things over we might do more than just wish for a happy and prosperous New Year, but might do something constructive for making it just such a year. Let us all pull together, so that when another Christmas rolls around we can tilt back our chairs for a moment and reflect pleasantly on a year of progress, prosperity and goodwill.

A Merry Christmas to You

# MAKING PLUMBERS *and* STEAM FITTERS *in* NEW ORLEANS

*The Isaac Delgado Central Trade School, Recently Opened in New Orleans, La., Gives Thorough Instruction in Plumbing and Heating, Supervised by Experienced and Practical Men*

ONE of the greatest problems in the plumbing and heating business, and, for that matter, in most other lines of business employing skilled tradesmen, is the artificial shortage of labor which has been created through the unions' policy of limiting the number of apprentices, and by various other union practices in order that they may thus force a higher wage scale. Of course the net result of continuing such policies is the actual limitation of the number of men necessary through the greater development of manufacturing processes and through reorganizations within an industry. When the cost of doing a thing a certain way becomes prohibitive some other way will be found in which to do it, even if it requires changes in laws, in processes of manufacture, or any other changes. However, plumbers and steam fitters will always be needed in rather large numbers, though the proportionate number needed may be decreased considerably. And since we are going to continue to need a great many plumbers and steam fitters, the problem is to get them and to train them properly. If we cannot get them by the apprenticeship route, we will have to get them by some other route, and one of these other routes is the trade school.



**Pipe Fitting Bench in the Plumbing Department of the Delgado Trades School at New Orleans, La.**

Many plumbing and heating contractors have not been favorably inclined toward the trade school trained plumber, in many cases, no doubt, for very good reasons, chief among them probably is the fact that many of them had been given considerable theory, but very little practice, and their training in many cases has not been received under practical men. Many trade schools now, however, have recognized this weakness and are furnishing as instructors in such classes as plumbing and heating, efficient practical men who have had years of experience at the trade. This is the case with the Isaac Delgado Central Trade School, which was opened recently in New Orleans, La.

In this school special attention is given to the courses in plumbing and heating. This department occupies about 4,000 sq. ft. of floor space. This does not include the space devoted to the courses in mathematics, drafting, and English, which are also required of those taking the plumbing and heating courses. The school conducts both day and night classes, and, as arranged at present, the former is for young men and boys, and the latter for men who have had some experience. The school has considerable equipment which includes:

**Equipment.**

2 (high) joint wiping benches, for training in elementary joint wiping.

1 (low) joint wiping bench.

2 pipe cutting benches.

1 pipe rack.

1 large set of shelves and bins for fittings.

1 lead burning bench.

4 oxy-acetylene benches.

1 tool room.

2 hot water heaters.

In addition there are various types of plumbing fixtures both in the completed units and in cross sections, a large assortment of valves and fittings and a variety of range boilers.

In order to give those taking the courses a very clear and graphic idea of a layout and installation a skeleton house is to be erected in the shop. The purpose of those responsible for these courses in the Delgado school is primarily, of course, to furnish more well trained plumbers and steam fitters for the New Orleans masters, and with this in mind the course is designed to cover plumbing and heating as it is done in that city together with a knowledge of its codes. Following this idea out a little further, those taking the course will make trips to the city water works, drainage and sewerage stations, and other places where the future plumbers may obtain some practical information and see in actual operation the things they have discussed in classes.

Although as stated before, the purpose is primarily to furnish more plumbers and steam fitters for New Orleans and surrounding territory, and, of course, also to give the boys who want to learn a trade, of which there are really quite a few, a good opportunity to do so, the instruction is broad enough so that those who take it will be prepared to follow the trade elsewhere.

**First Year's Work.**

The first year they are taught the care of tools; given practice in the use of stocks, dies, cutters, taps and reamers; taught how to cut iron pipe nipples, how to do simple gas pipe work, and how to make wiping solder and wiping cloths; they are given practice in the wiping of all types of lead joints to develop skill in the use of the wiping cloth and solder; and they are shown how to clean and restore wiping solder. This is supplemented with lectures on the various kinds of materials used in the trade, on tools, gas fitting, and on building regulations as to wiped joints.

**Second Year's Work.**

The shop work for the second year includes lead pipe bending; sheet lead work; the making of cup joints, overcast joints and flat seams with soldering copper; fitting up sinks, lavatories, tubs (hot and cold water), and closets; making hot water connections—gas heaters, ranges, tanks, and circulating systems; roughing in for sinks, lavatories, etc.; cutting and calking cast iron soil pipe; testing house drains with water, air and smoke; making drum traps; elementary lead burning, and brazing. The lectures for this period cover hot and cold water distribution, sewerage and drainage connections, and the study of fixtures. And, recognizing that this is an age of specialization, this school is planning instruction in the particular problems of plumbing and heating for special industries. This seems to be a very wise move, particularly if it is gone into thoroughly, for there are a great many problems pertaining to both the plumbing and the heating in many different lines of industry that need a great deal of study before they will be solved. To expect a trade school or any number of trade schools to solve these questions, would be to exhibit rare optimism, but trade schools can interest intelligent and progressive young men in these problems and encourage them to contribute their share toward their eventual solution. Giving these young men the idea that there are some difficult problems for them to solve is an excellent way to keep them interested and to get them thinking about the right lines.

**Third Year's Course.**

During the third year the shop work includes steam and hot water heating for residences; pumps and hydraulic rams; the installation of the F. & W. system of soil and waste pipes; the testing of traps for syphonage, and the installation of water service pipes from corporation cock to curb cock. The lectures given in connection with this work cover the elementary principles of hydraulics; water hammer; rams; public water service systems, and the plumbing in large buildings.

Though the plumbing and heating business during the past year has been more than holding its own with other lines of business, it is likely to be still better during the next two or three years. Much building is needed, and a building boom of any proportions is likely to mean a shortage of plumbers and steam fitters with all the difficulties that that will cause, and anything that will help to furnish a good supply of capable well trained men is to be encouraged.

**Specially Built Joint-Wiping Bench in the Plumbing Department of the New Orleans Delgado Trades School. The Man in the Black Vest is Instructor Julian Clements, a New Orleans Master Plumber of Many Years' Experience.**

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**It is estimated** it will cost the Government about $650,000,000 to make the financial conditions of railroads as good in the six months from March 1 to August 31 last year as it was on an average during the three years ended June 30, 1917.

**The cumulative** output of coal for 1921 is 41,000,000 tons behind 1919, a year of depression in the coal trade, and 135,000,000 tons behind 1920, according to statistics of the United States Bureau of Mines based on reports of loadings of soft coal.

# THE FIRING *and* CLEANING *of* HEATING BOILERS

*Notes on Some Methods That Will Save Both Time and Fuel*

*By* Ed. Cunningham

A TREMENDOUS waste of fuel goes on in this country annually, due to the neglect of the simplest precautions in burning fuel, and regulating the heating apparatus. Estimates of from 15 per cent to 50 per cent of the total fuel consumed have been made as representing

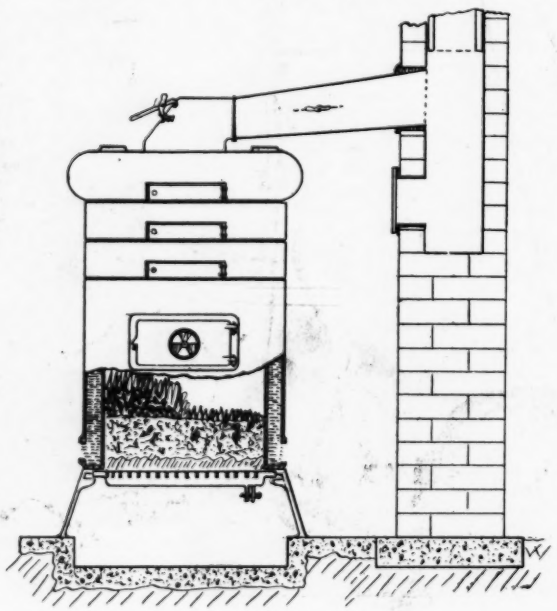

Fig. 1.

the waste. A very large amount of this is lost in heating plants.

The trade is interested in preventing this to as great an extent as is possible. Both from a patriotic desire to save the nation's resources, and to be of greater service to their clients, and further, from the very natural wish to have their customers fully satisfied with the plant provided them.

Probably the greatest source of loss is defective draft. This is a matter often touched upon, but is so important, and so prevalent as to warrant frequent repeating. The area and height of chimneys recommended by the manufacturers is usually amply sufficient; as a rule somewhat more than really needed. When difficulty with draft is noticed, usually because of a very high coal bill, or failure to heat, and the heating contractor investigates, only too often he fails to look for leaking flues. Probably 60 per cent of our trouble comes from defective flues which permit the inward passage of air. These can be discovered only by a smoke test, which is simple enough, and consists merely in building a smoky fire at the base, and blocking up the outlet.

But this is not a treatise on draft, but rather a few hints collected together and offered to improve the methods of handling the coal and ash on the grates, and the regulation of the dampers.

Too deep a bed of fuel obstructs the passage of air and uses up the available oxygen before the bed of fuel has been completely passed through. The U. S. Bureau of Mines has made some extensive, painstaking and accurate investigations of the subject, and finds that there is no oxygen left for the fuel, which is above the first four or five inches of fuel. So it follows that the common practice of carrying a bed of fuel of 12 inches to 20 inches is extremely wasteful. Such a procedure results in distilling gas only and means a very great loss in money, and much unnecessary handling of ashes, besides causing poor heating results. But, of course, it would not be practical, in the ordinary heating plant to maintain a constant depth of fuel of 4 or 5 inches. That would mean too much attention. So that the practice of carrying slightly more than that is to be recommended. An amount that will give good results with ordinary draft such as found in a residence would consist of 1½ or 2 inches of loose ashes, 5 or 6 inches of fuel in process of

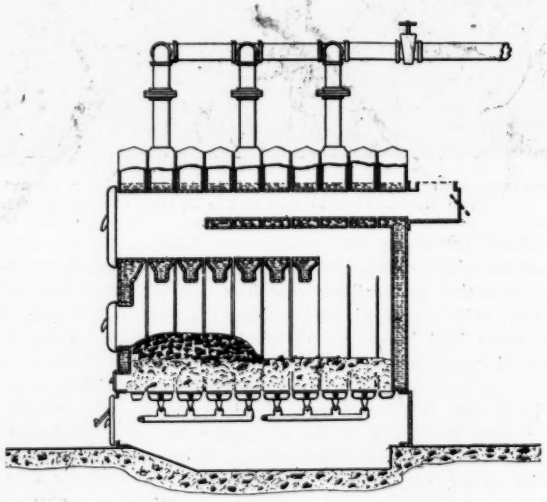

Fig. 2.

combustion and varying from nearly ash at the bottom of the fuel to about 80 per cent consumed at the top, and then, as shown in Fig. 1, 3 or 4 inches of fresh fuel, occupying one half of the fire box, leaving the other half unobstructed for the free passage of the products of com-

bustion. This method will permit a very good mixture of air, for the burning fuel, and has the added advantage of bringing the distilled gases from the reserve supply of fuel, into contact with any excess oxygen which has passed through the burning fire and this will unite with the combustible gases in the presence of the sufficient amount of heat, which is maintained by the exposed fire surface.

Fig. 2 illustrates a similar method of handling the fire in a sectional boiler. The fresh fuel is added at the front, the distilled and highly volatile gases passing over the thinner and highly heated bed of fuel on the rear half of the fire bed. As it becomes necessary to again replenish the fuel, the rear grates are given a good shaking, permitting a thin layer of ash to remain on the grate, and the partly consumed fuel on the front half is pushed back, with a hoe, on to the rear; the front half is then given a good shaking and fresh fuel added as before.

**Regulating the Draft.**

All of the air which passes into the chimney flue should first have passed through the fire. Even that amount of air is a very considerable burden on the energy in the coal. Air is ponderable matter; it has weight; and moving it up 40 ft.—the height of an ordinary residence chimney—represents a good deal of applied energy. So that—within reason—letting any air into the chimney by leakage around poorly fitted smoke pipe joints, around doors, by the opening of the

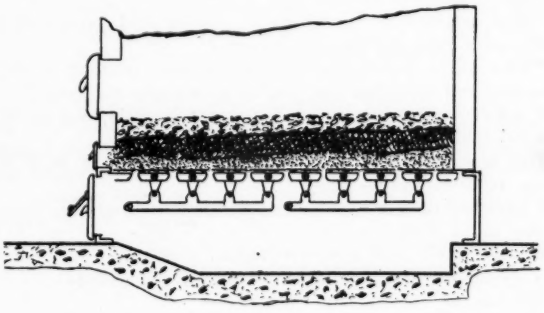

Fig. 3.

fire or flue doors to regulate the draft, is an unwarranted waste. Even opening the check draft is not good practice if the volume damper will do. In very many cases the opening and closing of the bottom draft door is sufficient to regulate the draft properly.

A reasonably high stack temperature is to be recommended, rather than discouraged. The former practice, indulged in by some boiler manufacturers, of proportioning the heating surfaces of the boiler to the grate in such an amount as to produce very low stack temperature, was positively vicious, as good combustion cannot be obtained with the chilling effect of this excessive surface. A temperature of 500 degrees, when operating at capacity, is not excessive. And if that temperature is not reached with a live fire and the drafts open, the chances are that the draft is defective, or the fire improperly handled. A very sure indication of poor draft is a highly heated base. The base (ash pit) of a boiler should be cool enough at all times to permit holding the hand firmly against its surface.

**Cleaning the Fire.**

If the coal used produces clinker (and clinker is not an objection—the writer prefers to handle a clinkering coal) and the fire finally gets into the shape shown in Fig. 3, where the lower portion is ashes, the middle portion a fused mass of clinker, and the upper portion the partly burned fuel, it may be best handled by the following steps illustrated in Figs. 4, 5 and 6, granting that the grate is divided into a front and a rear half.

Before shaking the grate shown in Fig. 3, take the hoe (which is ordinarily used for scraping ashes out of the ash pit), and push all of the partly burned fuel down to the surface of the clinker, which is on the front half, on to the top of the fuel, on the rear half; this will expose the surface of the clinker; now shake the front grate, and the result

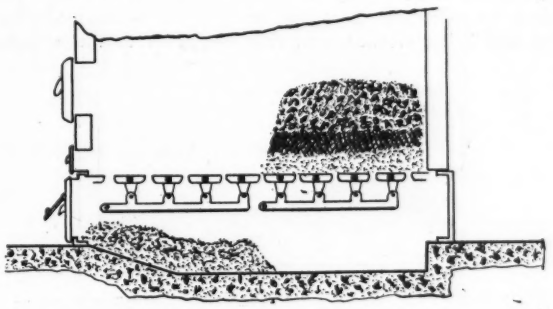

Fig. 4.

will be as in Fig. 4. Then taking the hoe, pull all of the fuel which is on top of the clinker, in the rear half, over on to the bare grate of the front half. This will bring about the result shown in Fig. 5. At this point shake down the rear grate, level up the grate bars, spread the good fuel on the front, over the entire surface and add fresh fuel on to the front half, when the fire will look as in Fig. 6.

When fresh fuel is added to a fire—especially anthracite (hard coal)—for a short time blue-colored flame will rise from the fuel. That is always the case. When the fuel is well lighted, however, this color should change to a bluish-pink, then to a pink-yellow, and finally to a yellow-white. The blue flame is a certain indication of incomplete combustion, and the flame is usually long—sometimes even extending into the upper gas passages of the boiler, or even out into the smoke-pipe. That is entirely wrong and wasteful. The characteristic flame resulting from the burning of anthracite coal is a very short yellow-white when combustion is good. The heat produced by the blue flame of burning anthracite is about 1/3 of that produced by the yellow-white. (We are not talking of gas stoves now—the flame of a gas stove is just the opposite in its effect.)

As remarked previously, clinkering coal is not objectionable necessarily. As a matter of fact, all coal or any coal will clinker if the temperature is sufficiently high. Some coals clinker more readily than others, due to fusing at a

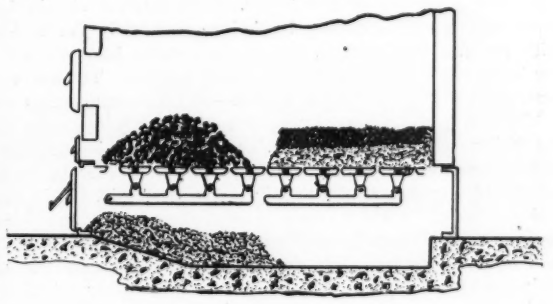

Fig. 5.

lower temperature on account of the presence of larger quantities of sulphur or silica, but in any event, a very high firebox temperature is necessary to cause coal to clinker. And again, I am not speaking of rocks or particles of slate, or so-called "bone." If the coal man is slipping in too much of that, raise a kick, although some of it—a small amount—is unavoidable in a commercial sense. The greatest

objection to clinker is the shutting off of the air; this can be overcome, pending the clearing of the grate completely, by punching holes at intervals so as to allow of the passage of air.

When the grate shakes as one unit, the same result as shown in the illustrations may be secured by clearing one-half at one time, raising the grate slowly and carefully, and using the poker (an L shaped one is best for this) to clear the half being cleaned, restoring the grate to the original

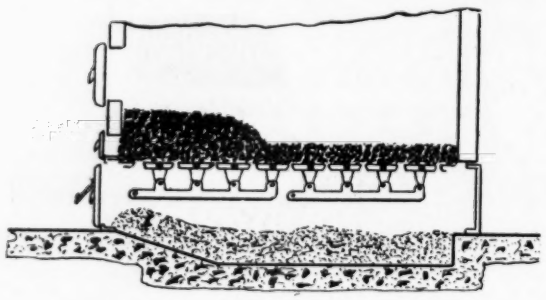

Fig. 6.

position and postponing the cleaning of the other half until the next time.

Magazine feed types of boilers may be cleaned in the same manner as the flat-grate sectional boilers by allowing the magazine to empty before attempting to clear off the clinker.

In any event, whether surface-feed boilers or magazine type, it is bad practice to pull clinkers out of the fire door, as this disturbs the rest of the fuel too much, causes holes through which air rushes, and permits good coal to be shaken into the ash-pit later on.

Ashes should be removed from the ash-pit promptly, as they interfere with the proper passage of air, and also cause the grates to warp through the effect of reflected heat, and, too, by the absence of the cooling effect of the air in its free passage through the ash-pit.

The upper surfaces of the boiler, over which the heated products of combustion pass, should also be given frequent good cleaning. It is roughly estimated that every one-quarter of an inch of soot costs 25 per cent of the fuel bill.

The inside of the boiler, too, especially if steam or vapor, should be cleaned by blowing off every once in a while. Grease and oil from the making up of the joints sometimes exists in sufficient quantity to make it almost impossible to raise any pressure on the boiler. The interior should be given a thorough cleaning by being completely emptied—with the fire out—and an occasional surface blow-off with the boiler filled with water and a good hot fire. The surface blow-off consists in taking a pipe—or hose—connection to a convenient drain, connecting one of the top openings of the boiler—under the safety valve, if no other is available, and turning on the supply valve; permit the water to drain off the top as fast as the supply water comes in. This has a skimming effect which removes all of the oil, although three or four such surface blow-offs may be needed—each of several hours' duration. But do not, in any case, ever put in soda-ash, caustic soda, lye, vinegar or any other alkali or acid. Such material does no good whatever, causes more trouble than the oil, and is harder to get rid of.

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**Building throughout** country for the year 1921 will probably exceed $2,500,000,000 and contemplated work for an equal amount is expected to be carried over into 1922. The total outlay for the year to date is about 11 per cent above the five-year average. Residential construction is now averaging approximately 47 per cent of the total.

## WAR GENERALS AND BUSINESS GENERALS.

By "Joe" Osier.

**Recently** the Master Plumbers and Heating contractors citizens, unemployed and plain clothes men in my town—

**Or rather,** the town where I live and work, and sweat and grunt—

**In order** to make a respectable living—

**Turned out** to honor Marshal Ferdinand Foch, of France.

**And, making** a frank confession, which "as the feller sez'

**Is good** for the soul but bum for the job—

**We soldiered** on the job—in order that Marshal Foch might be royally welcomed.

**There was** much hurrahing and ballyhooing—band music, cheering, clapping of chapped hands and—

**Thousands** of marching men.

**Our daily papers** editorially and otherwise, featured the "Little Gray Man of Destiny—"

**The man** who gave Autocracy the hook; the man who, through his genius and daring, quickly brought the World War to a quick and successful conclusion.

**After M. Foch's** special train left for the Southland, I turned over in the thing—

**I'm pleased** to call my mind—

**A remark** I heard a certain man of the trade say while the Marshal's car in the parade was passing us.

**This man said:**

**"Why couldn't** I have been a warrior and commanded millions of men and become famous?

**"Why am** I not riding in that big car, listening to the cheering and admiring the display of sweaty nightcaps?"

**I didn't answer** him then. I was too busy looking at M. Foch—"the Little Gray Man of Destiny—"

**But now,** after the show is passed and we are back to stern realities again—and—

**I have had time** to turn this master plumber's question over in my mind, I have come to this conclusion:

**We all** can't lead armies—conduct successful wars—dictate peace treaties and be honored as Heroes—but—

**We can** be Generals in Business.

**We can fight** offensive battles in our offices; we can learn and practice strategic movements; mass our forces for attacks; lead in the advance and carry the colors to the farthermost defenses within the enemies' lines.

**In a campaign** of this nature, the office force would be designated as the staff, consisting of aides and orderlies—

**The Journeymen** would be the army—

**The implements** of warfare—pipe wrenches, blow torches, typewriters, stub pencils and the like—

**The ammunition**—enthusiasm, backed by brainy, well directed commands—supplemented—

**By clean,** competitive figures.

**An army** or an organization of this kind cannot lose. Victory is assured.

**And best** of all, a Business General's work is one of construction and not destruction.

**Chaos—widows** and orphans, mangled men and unceasing tears are not left in his wake.

**His works** are a blessing and redound to the lasting benefit of all—

**From the public generally,** down to the apprentice kid who has learned the game within two week's time.

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**Open shipping rates** to United Kingdom ports have been put into effect by conference lines on grain, flour, oatmeal, glucose, lubricating grease, starch and dextrine. The new schedule of rates on products not thrown open is declared effective and shows reductions of from 10 per cent to 25 per cent. Baltic, Scandinavian and Continental European freight quotations are weak in sympathy with the United Kingdom rates.

# SUCCESSFUL SEWAGE DISPOSAL SYSTEMS *for* FARM *and* RURAL HOMES *and* SCHOOLS

*Promote Modern Plumbing, Reduce Home Drudgery, and Make Farm Life More Attractive*

*By* Frank R. King,

Plumbing and Domestic Sanitary Engineer, Wisconsin State Board of Health, Madison, Wis.

(Continued from Page 536 in the December 17th Issue.)

**Disposal of Treated Sewage Effluent.**

Four methods for the disposal of sewage effluent have been referred to and are briefly described as follows:

**1.—Discharge of the Effluent Into Subsoil.**—It may be said that this is the most common form of disposal of septic tank effluent where favorable topography and subsoil conditions prevail.

This method is applicable, however, only to a limited quantity of liquid such as that represented by the flow from a residence of average size, a small school, public building or place of industry.

Its success depends almost entirely on the absorption qualities of the subsoil. Soil such as gravel, sand free from clay or other porous ground free from water, is the best for subsoil disposal. Where compact clay prevails, disposal units of special design such as filtration trenches, may be employed for the disposal of large or small amounts of effluent, providing a satisfactory outlet is available.

Certain restrictions which must be carefully observed are placed on the disposal of effluent by underground absorption for the protection of water supply where this is obtained from shallow wells, driven points or springs.

**2.—Discharge of the Effluent Into Streams, Etc.**—In cases where a river, stream, water course (dry run) or ravine is available treated sewage effluent may often be disposed of satisfactorily by discharging into any of these outlets providing pollution or other unsatisfactory conditions detrimental to man, stock and fish life are not created.

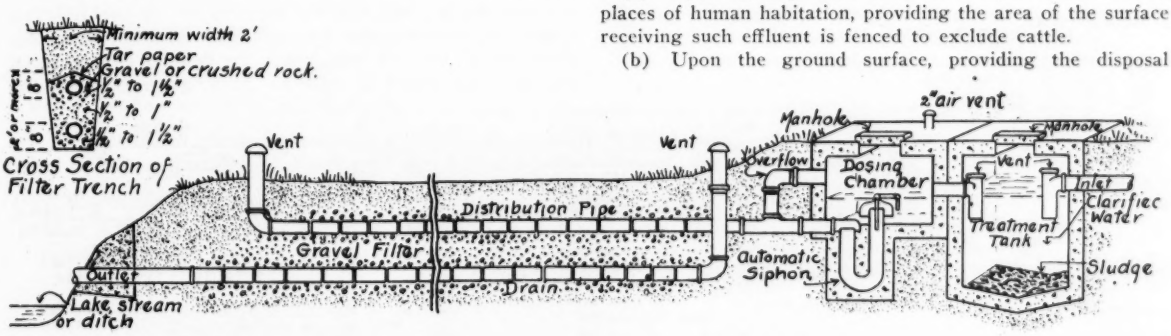



**Fig. 8.—Illustrating a Small Residential System consisting of a Septic Tank, Dosing Chamber, Syphon and Underground Filtration and Absorption Trench, with the Under or Collecting Drain extended to a Natural Outlet.**

**3.—Discharge Into Pond or Lake.**—This method may only be employed where the effluent has been rendered sufficiently stable so as not to create objectionable pollution. No effluent from a sewage treatment tank should be permitted to drain into a pond or lake without adequate purification.

**4.—Discharge Upon the Surface of the Ground.**—A limited amount of satisfactorily treated effluent may under the following conditions be discharged upon the surface of the ground:

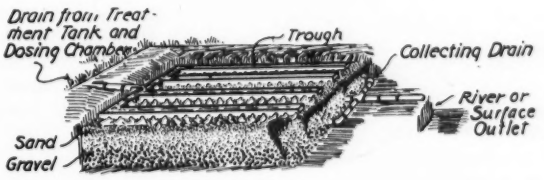



**Fig. 9.—Illustrating a Small Sand and Gravel Filter. Depth of Filter 2 ft. to 3 ft. allow 20 to 30 sq. ft. of Surface per Person, depending upon the Degree of Purification Essential. Two Such Beds should be provided and operated alternately, and when two are employed allow 10 to 15 sq. ft. as above.**

(a) Upon swamp land situated a safe distance from places of human habitation, providing the area of the surface receiving such effluent is fenced to exclude cattle.

(b) Upon the ground surface, providing the disposal area is located so as not to create a nuisance or objectionable conditions, and is fenced.

Note: It should be observed that most states have laws or regulations having the effect of law governing the disposal of sewage. In Wisconsin, as an illustration, plans must be submitted for approval to the State Board of

Health, Bureau of Sanitary Engineering, for all systems coming under items 3 and 4 as above noted. For systems coming under items 1 and 2 permission to install must be obtained from local plumbing inspectors in cities or villages where such office is maintained; otherwise, from the local

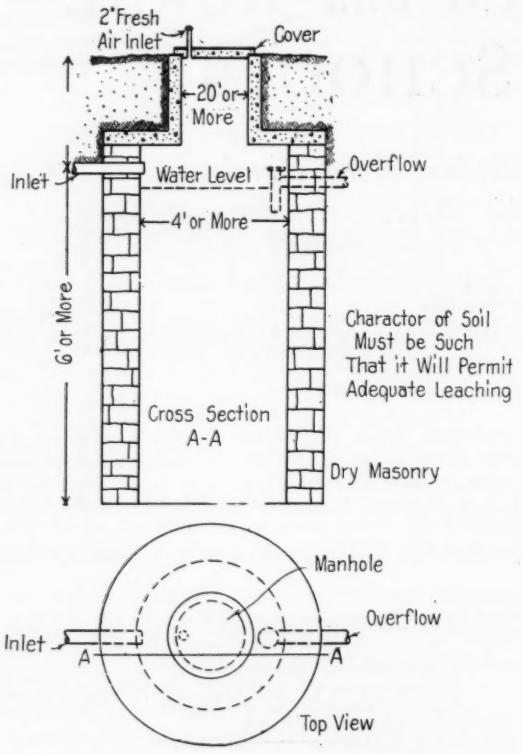



**Fig. 10.—Dry Well or Leaching Basin.**

health officer or the State Board of Health Bureau of Plumbing and Domestic Sanitary Engineering. This provision is intended also to cover rural districts and is required so that the state and local departments may know where sewage disposal plants will be located with reference to the availability of public sewers or the possibility of pollution of a public or private water supply.

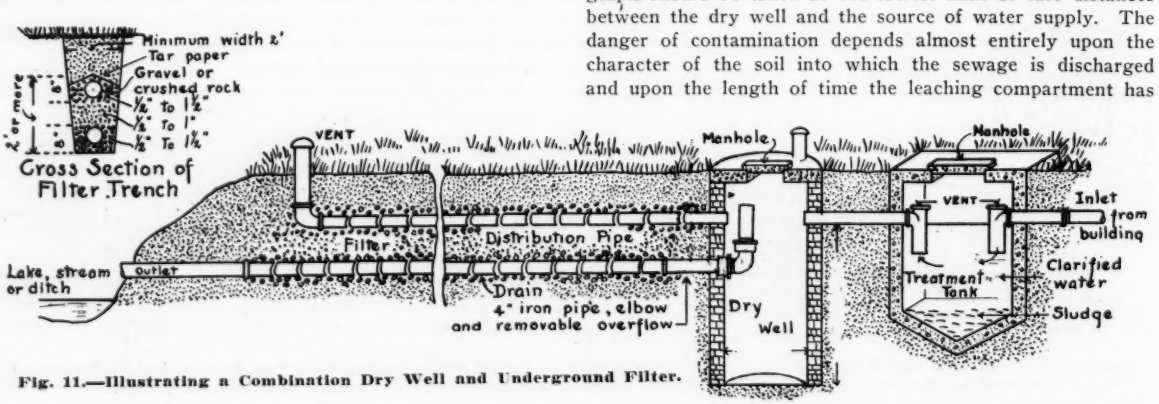



**Fig. 11.—Illustrating a Combination Dry Well and Underground Filter.**

### Sewage Effluent Disposal Units.

The following are typical methods or units that may be employed for the disposal of sewage effluent (liquid flowing from a sewage treatment tank):

Note: When the effluent from any form of tank is discharged into drain tile or underground filtration trenches or upon open filters, etc., it should pass first into a chamber provided with an adequate syphon which will discharge the contents of the chamber periodically into tile or upon the filters (Figs. 8 and 9). Because these syphons are liable to operate continuously, due to lack of air or excessive discharge from the septic tank (which is especially true of syphons smaller than 4-inch), it is recommended that at least a 4-inch syphon be used unless a larger one is required. If a syphon is used, it should be given regular attention. Its use is not necessary nor advisable in connection with a dry well except when this serves as a sprinkling filter.

Note: A more recent dosing device is not dependent upon syphonic action.

**Dry Well or Leaching Basin.**—The dry well should consist of a chamber or well walled up with material which allows water to percolate through it freely, such as dry rubble or dry brick work. The bottom is left open to the soil. The dry well should not be less than 5 ft. in diameter and should have a depth, where practicable, of 6 ft. or more below the inlet pipe, depending on the character of the soil and ground water level. It must be equipped with a manhole, cover and fresh air inlet. The capacity of this compartment should be such as to provide 1 sq. ft. of percolating surface (including bottom) to every 5 to 10 gallons of water per day tributary to the compartment. The lower limit is to be taken for clayey or compact soil and the upper limit for sand and gravel. (Figs. 10, 11, 11A and 11B.)

Note: The use of a dry well or leaching basin for disposing of the effluent is not recommended except where there is no possible danger of polluting a private or public water supply or where the use of drain tile or filter beds is impracticable. A leaching basin or dry well usually does not provide as good facilities for purifying the effluent as filter beds or drain tile laid near the surface of the soil.

**Dry Wells—Where Located.**—A leaching basin or dry well compartment should not be located where there is any danger of contaminating a water supply, well, spring, lake or stream, or of causing a nuisance. Where possible, the leaching compartment should be located at least 50 ft. from any dwelling or cistern and at least 150 ft. from any surface well or spring. It may be permitted within 50 ft. of a drilled well where the casing extends 100 ft. below the surface of the ground and is driven firmly into soil or rock. No abandoned water supply well should be used as a cesspool or leaching compartment for a sewage disposal.

Note: The limits of distances given in the above paragraph should be taken as the lowest limit of safe distances between the dry well and the source of water supply. The danger of contamination depends almost entirely upon the character of the soil into which the sewage is discharged and upon the length of time the leaching compartment has been in use. A clayey soil full of seams, a porous rock or one full of crevices, or a very coarse gravel will allow the effluent from the leaching basin or dry well to flow directly to the well with little or no purification. A sandy or gravelly soil is the safest in which to locate leaching basins, dry wells or drain tile. Where the owner's premises are too

small to attain the distances given between the well and the leaching compartment, the well should be located as near one end of the premises as possible and the leaching compartment of the disposal plant as near the other end as possible, unless by so doing his neighbor's well would be contaminated.

**Drainage Tile and Syphon.**—Drainage tile should be used in place of a dry well where the surface soil for a depth of 3 to 6 ft. is sandy or gravelly. The drainage tile should be laid from 1 to 2 ft. below the surface of the ground and in a very slight grade away from the tank (about 2 inches in 100 ft). The tile should be laid in straight or curved parallel lines 10 ft. or more apart. The joints should be left ¼ inch to ½ inch apart and the tops blinded with burlap, tar paper or broken tile. The amount of tile laid should be based on 20 to 100 ft. per person tributary to the tank, according to the character of the soil. The effluent from the tank should be discharged into the tile by an adequate automatic syphon or dosing device located in a chamber adjacent to the tank.

The capacity of the syphon chamber below the water line must be equal to the cubic contents of the tile required for the particular installation and must have a water head sufficient to insure proper syphonic action, and to accommodate the dosing appliance. (See Fig. 12.)

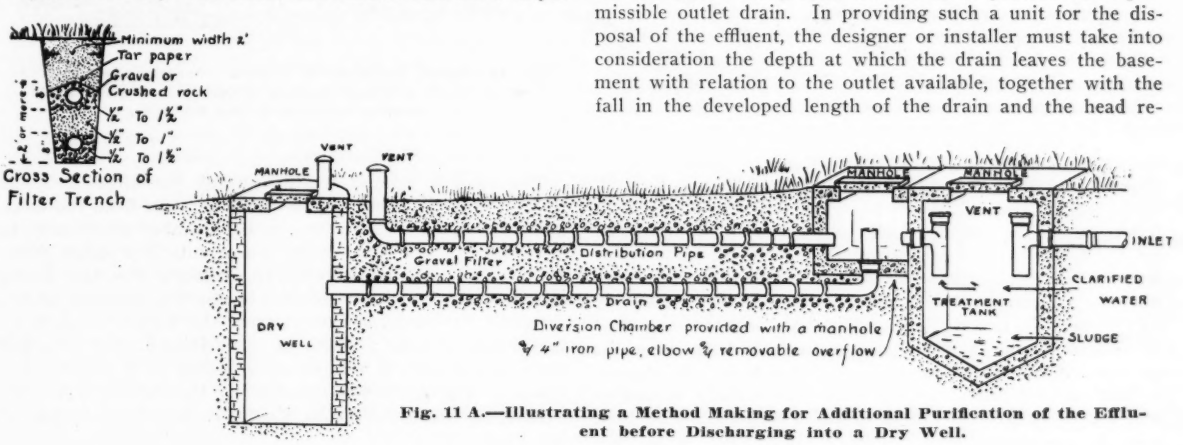



**Fig. 11 A.—Illustrating a Method Making for Additional Purification of the Effluent before Discharging into a Dry Well.**

important and must receive careful attention. The drainage tile should be laid approximately 1 ft. below the surface of the ground, and where it is necessary to lay the tile deeper than 2 ft., an adequate system of ventilation should be provided.

**Underground Filtration Trenches.**

Underground filtration trenches may be installed where the surface of the ground is such as to provide for a permissible outlet drain. In providing such a unit for the disposal of the effluent, the designer or installer must take into consideration the depth at which the drain leaves the basement with relation to the outlet available, together with the fall in the developed length of the drain and the head required for a syphon if one is installed. In such cases the distribution tile or drain is underlaid by a collecting drain, and the trench between the two drains is filled with filtering material, such as crushed stone or gravel, graded as shown in the cross section of the filter trench. (See Fig. 9.) However, if the soil is favorable or the amount of effluent is limited the effluent may during certain periods of the year, especially in dry months, be absorbed partly or wholly by the soil. The effluent after filtering through the filter material is collected by the underdrain and discharged in a purified state into a permissible outlet as previously described. Purification of the effluent is accomplished by the action of bacteria in the gravel filter material. Where the field tile is laid at a depth greater than 18 inches to 24 inches, the benefits of soil bacteria are small.

**Underground Filtration by Means of Field Tile for Distribution and Collection Drains.**—In those areas where soil is of loose formation, such as gravel, sand or sandy loam, and where permissible outlets exist, tiled absorption fields may be successfully employed and it may be said present the safest method for disposal of sewage effluent. Such systems, however, may be encumbered so that the field tile and underdrain (where used) require frequent replacing, depending upon soil conditions and character and amount of effluent. The system consists of field tile for the distribution of the effluent, and where the field is underdrained, provides means for the collecting and conveying of the effluent to the outlet pipe. In such cases the soil is used as a

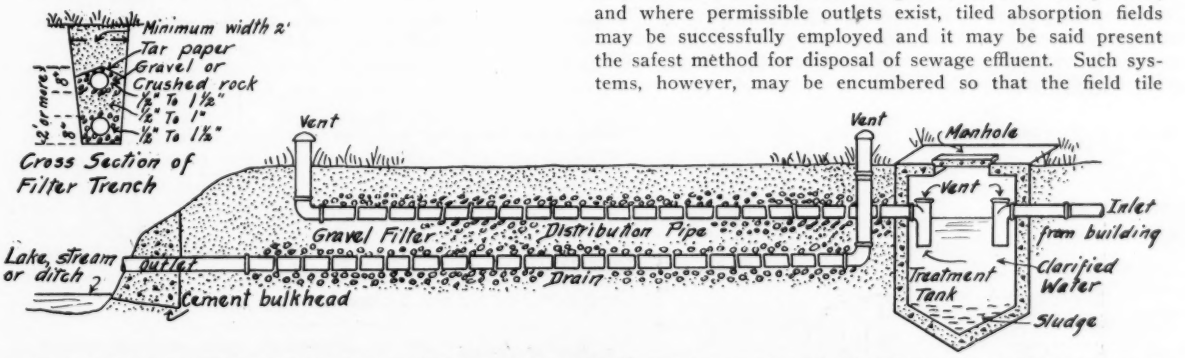



**Fig. 11 B.—Illustrating a Method of Installing a Filter and Absorption Trench where the Difference in Height between the Building Drain and Outlet Terminal is Insufficient for Successful Operation of an Automatic Syphon. Note that Part of the Filter nearest the Tank is Subject to Stoppage as a Result of Gradual Outflow of the Effluent should only be Employed for the Disposal of Small Amounts of Effluent only.**

Note: Each foot of 3-inch drain tile has a capacity of .367 gallons; 4-inch tile, .652 gallons; 5-inch tile, 1.02 gallons; 6-inch tile, 1.46 gallons; 7-inch tile, 2.012 gallons; 8-inch tile, 2.599 gallons; 10-inch tile, 4.0195 gallons; 12-inch tile, 5.875 gallons. The amount of tile required is governed by the lay of the land and the character of the soil. This is

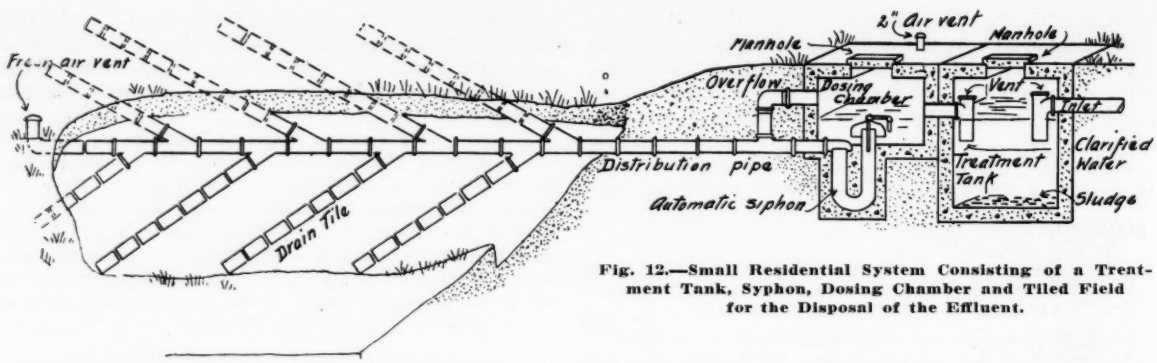



**Fig. 12.—Small Residential System Consisting of a Treatment Tank, Syphon, Dosing Chamber and Tiled Field for the Disposal of the Effluent.**

filter instead of an absorption bed, and after filtering through a few feet of gravel, sand or loose earth, the effluent is collected by the underdrains and conveyed to an outlet. The action of the bacteria which are present in the sub-surface layers of the soil oxidizes the effluent before it finds its way into the collecting drains and is therefore in a relatively stable state, inoffensive and sufficiently harmless to permit its discharge into a water course (dry run) or upon the ground surface, at a safe distance from human habitation.

This method may, therefore, be successfully employed where a permissible outlet is available and should be used only in connection with residences and other small disposal plants. The amount of treated effluent that may be disposed of in this manner depends upon the character of the sewage, the soil formation, size of the filtration bed and operation of the plant.

The effluent from a treatment tank for disposal by an underground tile absorption filter should flow from the treatment tank into a dosing or syphon chamber which may be a part of the tank or situated at any suitable distance therefrom. The overflowing effluent gradually fills the dosing chamber to a certain established level. The contents of this chamber are discharged at intervals by means of an automatic syphon into a series of open jointed field tiles laid under the ground at a depth of 12 inches to 30 inches. The liquid is thus gradually absorbed by the soil or soaks into underlying strata. Fig. 13 illustrates a typical system of this type.

It is obvious that if the ground is not porous, that is, if there are no indications of sand, gravel or loose loam, or if it is already waterlogged, this means of disposal cannot be adopted with success for any large amount of effluent.

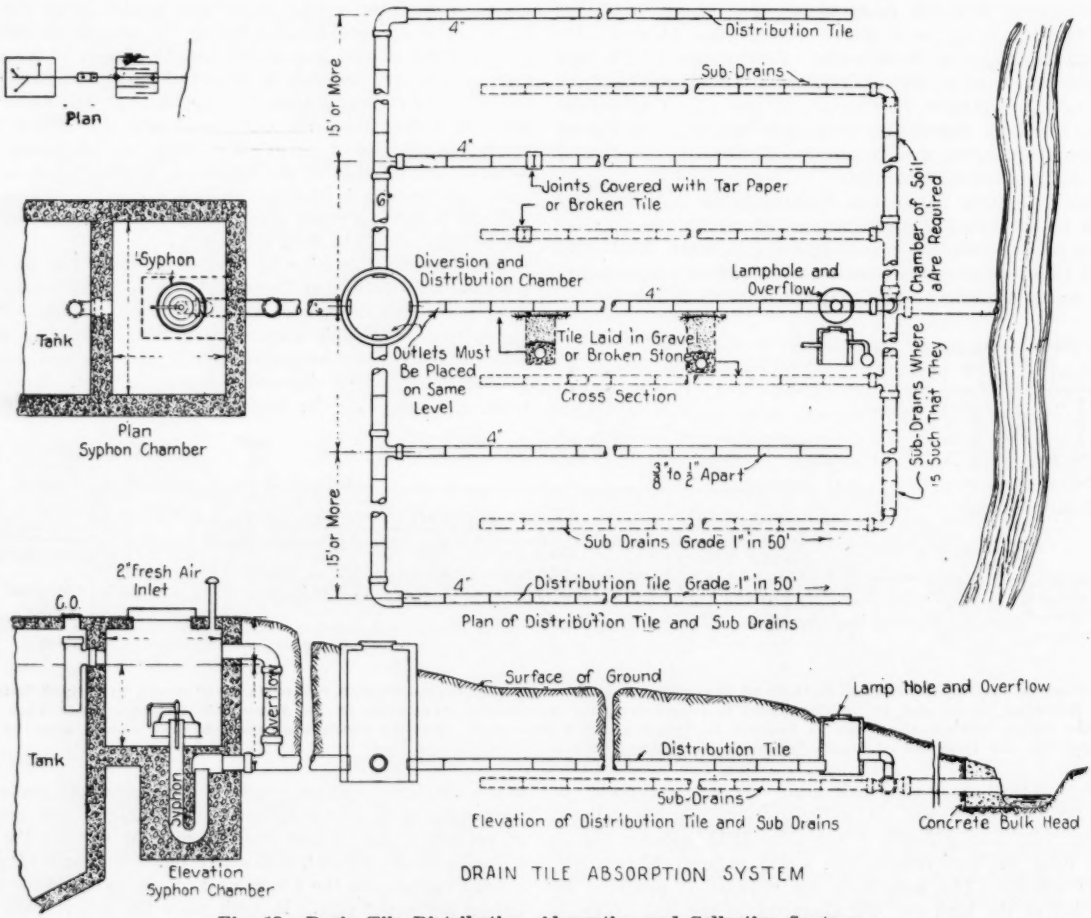



**Fig. 13.—Drain Tile Distribution, Absorption and Collection Systems.**

Many believe that a clay subsoil may be made to absorb the septic tank effluent by placing tile pipes in a bed of broken stone or other coarse material. Assumptions like this are misleading. If the ground is porous, its ability to absorb effluent will be increased by surrounding the tile pipes with broken stone or gravel. But, for an illustration, if a 6-inch diameter hole drilled in a bed of impervious clay were filled with water and it was found that the water did not soak away, it would be of no advantage to enlarge the hole to 18 inches in diameter and to line it with stone to make the water soak into the ground. The effect would merely be to increase the capacity of the hole for holding water. In this way the owner or contractor may easily determine the leaching qualities of the soil prior to installing the disposal unit. Similarly the construction of an absorption bed in a clay subsoil is equivalent to providing a reservoir to hold the sewage. It will only be a matter of time until the trenches become water-logged and the sewage backs up into the septic tank.

By the same method of deduction it may be understood that a dry well, regardless of its dimensions or capacity, located in impervious soil will serve only for such a period as it will take the inflowing effluent to fill the excavation or dry well. The actual period of service, therefore, depends upon the amount of effluent discharged daily less the actual amount of absorption by the soil. The same may be said of an underground gravel filtration trench having no outlet drain.

**Construction of Absorption Field.**—In cases where the treatment tank is located close to the building and the effluent is to be discharged into the subsoil as it leaves the tank, the ground surrounding the house would be fouled.

A vitrified clay or cast iron pipe with water-tight joints should therefore be laid with a fall ⅛ to ¼ inch per ft. or more from the syphon chamber to a point at least 35 ft. from the house, at which point a distribution chamber or manhole should be constructed. The outlets must be so placed as to make for equal flow into each separate lead.

From this manhole the effluent is run through open-jointed tiles and absorbed by the ground.

As a general rule 50 ft. of field tile should be provided for each person in the house, or 300 ft. for a household of six.

In subsoils of sand or gravel the amount of tile per person may be reduced to 40 or even 30 lineal ft.

The lines of tile should be laid 4 ft. apart with a fall of about 3 inches in 100 ft.

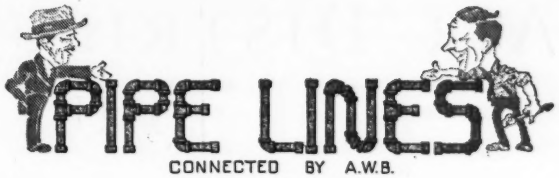
Open tile drains should be laid on a graded bottom and surrounded by a 9-inch bed of broken stone, brick bats, gravel or other coarse material to facilitate the absorption process and to prevent the entrance of sand or earth at the open joints of the pipes. The filter material should be covered with substantial tar paper or other adequate material to prevent the earth filling from sifting down into the filter.

In backfilling the excavation, care must be taken that the pipes and their surrounding bed be not disturbed.

Trees or bushes should not be grown over absorption beds as the roots may penetrate the openings between the tiles and obstruct the flow of sewage.

(To be Continued.)

**Under the new wage reductions** for the 750,000 railroad workers employed north of the Ohio River and east of the Mississippi, the scale of shop machinists, boilermakers, blacksmiths, electricians and high-grade car repairers will be 62 cents an hour instead of the present rate of 77 cents, freight car repairmen rate 52 cents instead of 72 cents, track labor 32 cents on main line tracks and 30 cents for branch lines. Shop and roundhouse workers will receive a rate of 3 cents an hour in excess of track labor. Train service workers will lose all of increases granted under Decision No. 2, which means restoration of rates of pay in effect prior to May 1, 1920.




**MERRY CHRISTMAS!**

There's a wealth o' Christmas spirit in a friendly "Howdy do."
There's a warmth in ev'ry snowflake when you say, "I'm fine—are you?"
Awishin' "Merry Christmas" is just a greetin' for the day;
It's the Merry Christmas spirit that keeps bugaboos away.
Try and let that spirit linger through the days and months and years;
Let it flicker 'neath your eyelids—in your smiles and in your tears.
Does your handclasp carry happiness; your voice—how does it sound?
Are you tryin' not to kid yourself; are both feet on the ground?
Happiness cannot be bought, e'en though all of us are near it—
For happiness is just another word for the Christmas spirit.

**BUSINESS TO THE END.**

"Why" asked the lawyer who had been called in to draw up a plumbing contractor's will, "why do you insist upon naming six bankers to act as pallbearers when you die? Of course, it's all right; but wouldn't you rather have six plumbers—men with whom you have been associated—instead of bankers?"

"No, Judge, the bankers will understand. You see, those fellows have carried me so long, they might as well finish the job." SPEED, Indianapolis.

The daily bath habit is a little more trouble, but it is cheaper than the perfume habit. A. J. M., Chicago.

**AND IT STILL IS.**

(Twenty Years Ago in "Domestic Engineering.")

It is said that the Kewanee Boiler Company's Tabasco heater is so called because it's "hot stuff."

All gaskets belong to unions. R. F. W., Morrisonville, Ill.
But all nipples are not pacifiers. L. S. O., Marion, Ohio.

I'm looking back to see if they
Are looking back to see if I
Am looking back to see if they
Are looking back at me.

BURR, Altoona, Pa.

C. J. T. writes that the plumbers of Birmingham, Alabama, are as busy as a one-eyed cat in a bird store.

O fashion, what shins are permitted in thy name.
SOMEBODY'S STENOG, Wilmington, Del.

**A TALE OF THE TRACK.**

Three journeymen plumbers there were,
Who toiled eight hours a day,
Till one broke down from overwork,
And went insane, they say.

His brother craftsmen deemed it wise
To take him up the track,
And put him in the booby house
Until his wits came back.

The fast express wheeled by just then,
And through the trio cut;
That evening on the track were found
A pipe wrench and a nut.

MIKE QUINN, Scranton, Pa.

Helper: "I think I have a cold or something in my head."
Master Plumber: "It is probably a cold."
C. W., Albany, N. Y.

**HE WAS SO IGNORANT**

He thought Sandy Hook was a Scotchman.
A. F. H., Chicago.

No Lucius, strictly speaking, running a sewing machine isn't domestic engineering.

KEEP ON SENDING YOUR BEST JOKES. A. W. B.

# AIR DISTRIBUTION *in* LARGE BUILDINGS

*The Fourth of a Series of Articles on the Distribution of Fresh Air in Large Buildings, Such as Grammar and High Schools, Office Buildings, Department Stores, Public Institutions, Etc.*

*By* Charles L. Hubbard

**Waiting Rooms and Libraries.**

A TYPE of room which occasionally comes to the attention of the ventilating engineer, is the waiting room of a large railway station, the reading room of a city library, and certain forms of large banking and insurance offices.

While the number of occupants varies during different parts of the day, rooms of this kind are likely to be crowded at certain periods and must be provided with an ample

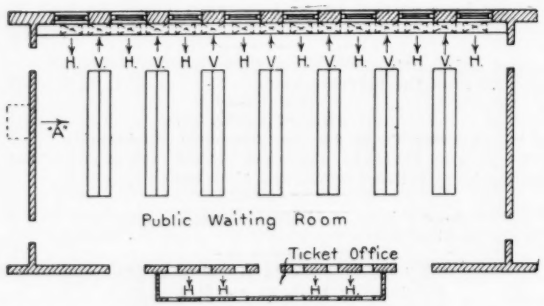



**Fig. 1.**

supply of fresh air and a positive means of exhaust, especially when crowded or when smoking is allowed.

Public rooms like waiting rooms in stations and reading rooms in libraries often contain crowds made up of people of all degrees of cleanliness, hence, as much attention must be given to the removal of offensive odors as to the providing of fresh air for breathing purposes.

A waiting room in a large station is used for illustrating the method of air supply and removal, and is shown in plan in Fig. 1. This room has one outside wall with high windows, the sills of which are about 7 or 8 ft. from the floor. The air supply is first heated to a temperature of about 65 degrees, then passed through supplementary heaters at the bases of the flues, which are under the control of two thermostats, one placed at either end of the room.

The general arrangement of the supply and vent flues will be more clearly understood by examining Fig. 2 in connection with Fig. 1, which gives sections through a supply uptake and vent downtake, respectively. The outer wall below the windows, is furred out to make a space of sufficient depth to conceal the vertical flues. The warm fresh air is delivered through grills, one being placed just below each window. As the temperature of the entering air is considerably above that of the room, it tends to rise, as indicated by the arrows, and catches the down current of cold air from the window, and causes the mixture to float out into the room where it gradually falls to the breathing line and is later returned to the vent registers as shown by the arrows in Fig. 3.

The vents, as illustrated in Fig. 2, are at the floor, and alternate with the inlets as shown in Fig. 1. As illustrated in Fig. 2, the main vent duct is carried along the basement floor close to the wall, with the supply duct on top, but set away far enough to allow the vertical flues from the registers to pass back of it.

The general arrangement of the supply fans and heaters is shown in Fig. 4. The first of these stands close to the wall at the left and is driven by a direct-connected motor. Fresh air is drawn down through a vertical flue extending above the roof of the building and passes through a primary heater before reaching the fan. The location of the supplementary heaters at the bases of the individual uptakes is made clear by reference to Figs. 1 and 2. The primary heater is of the regular pipe construction with cast-iron base, and the smaller stacks are made up of cast-iron pin sections, enclosed in galvanized iron casings. Two of the sections of the primary heater are hand-controlled and the third connected with a hot-air thermostat located in the duct beyond the fan. Air velocities of 1,000 ft. per minute are allowed in the main duct and 600 ft. in the uptakes. Regulating

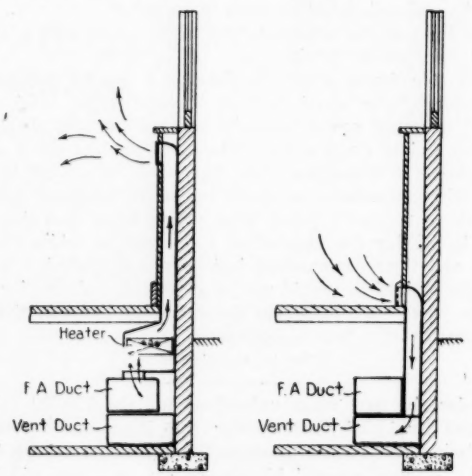



**Fig. 2.**

dampers are placed in each flue to equalize the air flow, the same being fixed permanently after once adjusted. In a room of moderate size the supplementary heaters would be omitted and all of the radiating surface combined in the main heater, which in turn would be controlled by a single room thermostat centrally located.

In a very large room, or when the fan supplies other parts of the building, it is best to use supplementary heaters as previously described. The vent connections and fan location are clearly indicated in Fig. 4, the air being discharged into an uptake shaft leading to the roof.

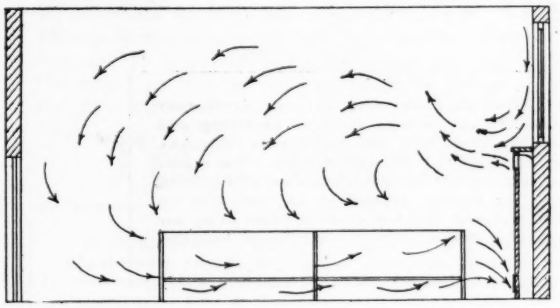


Fig. 3.

It should be noted, in passing, that provision for warming when the fan is not running must be taken into account either by air rotation through the supplementary heaters or by a special opening between the main vent duct and the cold-air chamber, which will cause a circulation downward through the vent registers, thence by way of the basement ducts to the cold-air chamber, then through the heater, and upward through a special rotation register (marked "A," in Fig. 1) to the room above. This simply illustrates one of the schemes which may be used for this purpose, and brings out the general principle of air rotation, which may be adapted to the actual conditions in any given case.

The plan for a large reading room would be much the same as already described, and Fig. 1 will serve for this purpose by assuming the seats shown in the waiting room to be tables in a reading room, and the ticket offices to be the attendants' rooms. In buildings of this kind the reading room is usually supplied with air from the fan which

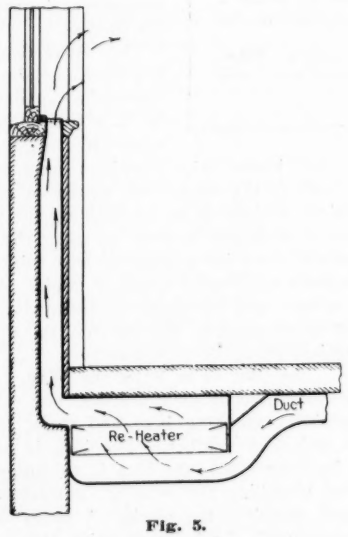



Fig. 5.

connects with other parts of the building, so that supplementary heaters are necessary for securing the proper temperature regulation.

When it is not desirable to thicken the outside wall by furring, as in Fig. 2, the air may often be carried to the window sills in wall slots left in the brick or concrete construction and covered with wire lath and plaster, as shown in Fig. 5. This gives much the same result as the method previously described, without incroaching upon the floor space. The discharge ventilation may be drawn downward through similar slots starting near the floor, and all ducts,

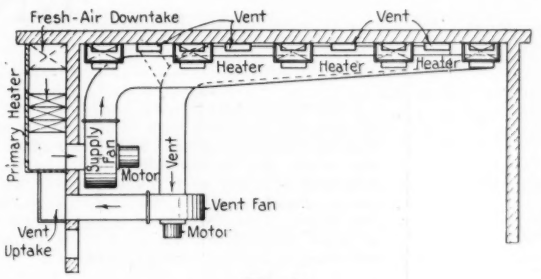



Fig. 4.

both for supply and discharge, kept at the basement ceiling if it is desired to keep the floor space clean for other purposes.

The treatment of banking rooms has been considered to a considerable extent in a previous article, but the drawings shown in the present case offer suggestions which should be studied in connection with what has already been said upon this matter.

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### The German Iron and Steel Industries.

The production of pig iron and steel is being reduced by the enormous cost of foreign ores as well as by the coal shortage and prices, according to a report just received from United States Commercial Attache Charles E. Herring in Berlin, Germany. The Krupp steel production for the past year has equaled about 65 per cent of the pre-war output and has used 60 per cent foreign ores, and its coal needs have been filled to the extent of only 77 per cent. The following iron and steel prices became effective on December 1: Pig iron, per ton, 3,326 marks, representing an increase of 51 per cent; hematite, 3,891 marks, showing an increase of 44 per cent; 80 per cent ferromanganese, 11,750 marks, 56 per cent increase; bar iron, 6,180 marks, 93 per cent increase; light plates, 8,160 to 14,500 marks, 85 per cent increase. The price of copper sheets per 100 kilos was 9,350 marks on December 1, showing an increase of 61 per cent; zinc sheets showed an increase of 57 per cent, reaching a price per 100 kilos of 3,826 marks. These prices as given above are those of the Manufacturers' Association, but considerable variation from them is shown in actual transactions. The higher prices may be ascribed to higher labor costs, freight increases and higher coal prices as well as to the low value of the mark.

The German machinery industries although working double shifts are unable to fill the orders on hand; since November 15, however, the number of orders has declined. New orders are likewise few in the locomotive industry, although enough are on hand to call for activities for several months. Many inquiries are coming from abroad, but no contracts of importance have been received recently. In the electrical industries general activity is noted and prices have increased considerably. There is, however, a great decline in foreign purchases and the industry is also embarrassed by the delay in delivery and the advanced prices of raw materials. The hardware industry is particularly active in tools and locks, but there has been considerable overpurchasing and it is feared that there may be much cancellation of contracts. Cutlery has likewise been particularly active and the steel stocks of the industry are practically exhausted.

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**The cotton crop this year** will amount to about 8,340,000 bales, according to a final estimate recently made public by the Department of Agriculture.

# How Much Should Customers Know?

**EDITOR'S NOTE:—By using one of these Editorials each week in your newspaper advertising you will help to educate your community in the true facts of plumbing and heating merchandising. Such education will create good will and build your business. The more the public knows the better your service will be appreciated. Take one Editorial a week and reprint it in the upper left corner of your regular advertising space. Have it set in bold-faced type, with rule or border around it, as indicated on this page. This will cause the Editorial to stand out and make it easy to read. The use of these Editorials from week to week will not add a dollar to your advertising expense, but they will help along sales.**

BROADLY speaking, customers should know everything about your business that it is possible to tell them. The more a customer can be made to know, the more he is likely to appreciate the work you are doing. And customers want to know. Don't ever forget that.

Keeping a buying, using public in ignorance is a relic of bygone days. There has been a change in business, just as there have been changes in everything else. And this change has greatly influenced the growth of business.

Fifty years ago business was not business. It was barter and exchange. Then the policy was to keep the customer in ignorance. Each transaction involved a certain amount of haggle. The first thought in the mind of a customer was to get the better of the man he was dealing with. Of course a customer never got more than a dealer wanted him to have. A dealer always had an advantage. He knew all about his line of goods, the work that was to be done, and everything that entered into a sale. The customer knew only what he thought he knew, which, in most cases, was next to nothing. But customers enjoyed the game of haggle, and dealers encouraged them in the sport.

Then John Wanamaker, of Philadelphia, gave to the world the one-price system, with the price marked in plain figures. This was the blow that killed barter and exchange. This ushered in a new business era. The spirit of haggle disappeared, and in its stead came the education of customers. The question changed. It was no longer how little should a customer know, but how much should he know? Or, to put it in another way, how much about a business could customers be taught?

### Business Is an Exact Science.

In educating customers, business has educated itself. That is the fine thing about education. In trying to educate others, we always educate ourselves. This education has taken business away from guesswork and made it an exact science. We no longer guess about locations, store fronts, window displays, advertising, and such things. We know. For example, as a general proposition, the shady side of a street is better for business than the much-talked-of sunny side. Why? The shady side is cooler in summer and dryer in winter. Also, the first ten feet of your store is worth more from a sales standpoint than all the rest of the room. Therefore, it pays to keep the first ten feet attractive. And again, while more people are on the streets between twelve and one o'clock than during any other hour of the day, the largest number of shoppers are out between the hours of two and four.

Yes, business is now an exact science. And the more a dealer knows about his business, and the more he tells his customers, the greater will be his success.

The Advertising Editorial this week explains a point that cannot be explained too often. It is a little thing that has grown big in the public mind. People do not know why plumbers frequently leave a job and go back to the shop. And unless an explanation is made, the public is likely to go on thinking the wrong thing.

This Editorial does not attempt to cover the subject. A dozen Editorials could be written on this subject, each designed to explode a different point or angle. And if a full dozen were written, and every one of them printed in at least one paper in every town in the country, the going-back-to-the-shop bugaboo would be settled forever.

### The Idea Is to Point the Way.

This series of Advertising Editorials, you may have noticed, skims about, stopping here and there, touching first one subject and then another. The idea is not to do all that might be done. No, the idea is to suggest—to point the way—that plumbing and heating contractors may catch the spirit and complete the work. A study of these editorials, together with the habit of using them, should suggest other subjects and other points to contractors. We hope such suggestions will encourage contractors to write their own editorials. If this should happen, the time and thought that is being put into the series will have been well worth while.

An educated customer is inclined to be a permanent customer. So, then, education builds a larger and a better list

**A SERIES—No. 6.**

### WHY HE GOES BACK.

**YOU 'phone the plumber to come and do a repair job. Nine times out of ten you don't know what is to be done, and you can't tell what repairs are needed. About as far as you can go is to say that the water is leaking in the bathroom, or there's a peculiar noise in a pipe, or something's the matter.**

**The plumber arrives, works awhile and then goes back to the shop. He may go back a second or a third time.**

**You can't understand why he goes back. And because you can't understand, you are apt to get a notion that the plumber is loafing on the job—loafing at your expense. But such is not the case.**

**This is why he goes back. There are many kinds of plumbing, and each kind has a number of different parts. To carry all the parts for all the repair jobs would require several large trucks. So, the plumber must first see the kind of plumbing you have in your house, then locate the particular trouble, then go back and pick out the needed parts. If, later on, he finds more trouble between walls or under a floor, he may have to make other trips back to the shop.**

**All parts are gradually being standardized. Standardization means fewer trips. This pleases you. And it also pleases the plumber.**

of buyers, and naturally this leads to larger and better sales.

In this sort of education kindergarten methods are the best. That is to say, teach the little things about the plumbing and heating trade step by step—one step, or one point, at a time. This makes it easy for the public to understand. Education dispels ignorance. And when ignorance is driven out, doubt and suspicion will take flight.

Every wrong impression held by a buying public is like a cancer. If its growth is not checked, it eats into business. The only cure for wrong impressions is plenty of plain, straightforward publicity.

# Trade Opinions

**In this Column "Domestic Engineering" offers an Opportunity for the Expression of Signed Opinions on Problems of General Interest to the Trade, but reserves the Right to Edit or Reject any and all Contributions.**

## WHY PLUMBERS' BILLS SOMETIMES SEEM HIGH.

"How should I know that bill would seem high to Mrs. Sam Smith," said Bill Jones, proprietor of the Jones Sanitary Company. "I cannot read her mind; all bills seem high to her no matter what the amount is."

Of course, we all know if that bill did not seem high to her, she would not have presented a kick.

The plumber of today realizes that the expense he is put to to carry on his business makes the bill run high, but he cannot help it and even at times is ashamed to present the bill. Now is the time to remedy hard collections and decrease collection costs. This must be remedied either by personal conversation or advertising conversation.

The plumber is constantly being advised to inform the public through advertising why plumbing bills seem high. He must get his customer acquainted with high costs before the bill will be paid. The dentist and doctor have advanced to higher levels, so why can not the plumbing business do the same?

Of course, the greatest care must be taken in advertising. The first thing to look out for in this respect is not to make the "ad" look like association advertising, for many people think the plumbers and other business men associate to fix and maintain prices. Prepare a chart showing the percentages charged for doing business. Along with this chart there could be a problem showing the cost of a certain article to which is added the percentage for conducting business and the percentage of profit, of which no customer would want the contractor deprived.

Your "ad," to be successful, ought to include the following:

For the protection of health, I am required to have each job inspected by the city inspector.

For the protection of the city, I commence each job by making a hole in the street, and I must report to the city and pay a recording fee.

I must also take out a license every year to show that I have passed my examination and am qualified to carry on the work of a plumber. I must put up a bond, representing a large sum of money, with a bonding house to protect the work from delays or incompletion. For the benefit of my customers I must maintain a place of business, carry a large stock of goods, and must pay a number of bills incidental to the successful operation of my business. I must have a bookkeeper, and must operate a truck, which are added expenses. All business houses sustain losses from bad accounts, depreciation of tools and other equipment, advertising, etc. These charges must be included in the bill, if I am to remain in business.

I think if any plumber whose bills have been questioned will study this, he will try to educate his trade with this kind of advertising, which he will find to be very beneficial. This advertising will also help to keep his name before the public.

Cedar Rapids, Iowa. Walter C. Meister.

## FOR UNIFORM SHADE OF COLOR IN BATHROOM FIXTURES.

There are several things in the plumbing business which I have always thought should be brought to the attention of the manufacturers or jobbers to see if they will not try to remedy them.

One thing in particular is the question of the different shades of white in enameled iron goods. Standard goods are one shade, Kohler another and U. S. a third. Of course, this might be remedied by purchasing one make only, but this is not always possible and we have at times received a drain board that did not match the sink it was sent with.

The same is true in porcelain. The tub will be one shade, the closet outfit will have different shades in the tank and and in the bowl, and the lavatory will be entirely different. Then, with the tile floor one shade and the walls another and the bathroom trimmings still different, there is no real harmony to be had.

It may be that it is impossible to overcome this trouble but it would seem that some way could be found out of the difficulty, and, to my way of thinking, the manufacturer who first solves this problem is going to have no difficulty in getting the bulk of the business from the plumbers.

### Also a Word About Drainage Couplings.

There is another matter which might be brought to the attention of the manufacturer who is interested in meeting the needs of the plumbers of the United States, and that is the question of the drainage coupling.

The old saying that "a chain is no stronger than its weakest link," certainly holds true in this matter, in so far as galvanized drainage work is concerned.

We are very particular to use drainage fittings for waste work because the shoulders butt up against the fitting and make as smooth and even a joint as it possible to get, particularly where it is necessary to go through a joist or down a partition without tearing the house down to get the waste riser in. The only thing to do is to use a common coupling with threads which naturally are exposed and catch lint and threads going through the pipe.

I believe both of these questions should have some consideration and I believe it would be a real favor to the plumbing trade if the matter were given consideration in your magazine, to which I have been a subscriber for twenty years or more.

Very truly yours,

Kenosha, Wis. Edw. J. Sullivan.

**Since the Beginning** of the Harding Administration the value of the United States War Bonds increased $2,000,000,000.

**Total deposits** in the United States postal savings banks on December 1 were approximately $148,000,000, a decrease of about $1,400,000 occurring during the month of November.

**Reports From Leading Banks** that make weekly returns to the Federal Reserve Board indicate that liquidation proceeded a little more slowly in the past month than the preceding thirty days. Comparing total loans and discounts on November 30 with October 26, five weeks earlier, liquidation is $86,034,000, while from September 28 to October 26 reduction was $151,900,000. In the later five weeks reduction averaged about $17,250,000; for the previous period of four weeks the average was about $37,000,000 a week. A statistical study reveals many indications that bankers are no longer pressing borrowers. Since January 7 reporting member banks show a reduction of $1,968,300,000 or about 15 per cent.

# QUESTIONS & ANSWERS

**This department is a clearing house for ideas and is open to every reader of "Domestic Engineering." Problems sent in are replied to at the earliest possible moment by "Domestic Engineering," and this department can be made more valuable if readers themselves will help the man who needs assistance. Read the questions and answers. If you have had similar problems, or know from experience how the faults can be remedied, do not hesitate to send in your comment or criticism. It will be some satisfaction to you to know that you have helped a fellow craftsman and a pleasure for us to pass on the data. "Every man owes some of his time to the upbuilding of the profession to which he belongs."**

## HOW TO TEST A STEAM HEATING SYSTEM FOR EFFICIENCY.

Editor, "Domestic Engineering":—I am a reader of "Domestic Engineering," and would appreciate if you would give me the following information: We have installed a steam heating plant and would like to know how to make a test of this heating plant in any kind of weather and at any time of the year.

The plant is to be guaranteed to heat the building at 70 degrees at 10 below zero. We would like to have you tell us how this can be done without waiting until the weather is 10 below zero. We would like to have a test that is used by the American Society of Heating and Ventilating Engineers.

Pennsylvania. C. C. F.

The amount of heat given off by radiation and convection from a square foot of radiating surface, for various degrees of temperature, was determined many years ago by Peclet's experiments. These figures, slightly changed to conform with later experiments, have formed a basis for determining rules for ascertaining the temperature produced in a room by a given amount of radiation when the outside air registers varying degrees of temperature.

Prof. R. C. Carpenter compiled a table to be used in testing heating apparatus for efficiency. This table has been widely accepted by heating contractors and engineers as a basis for this purpose. We know of no better or more accurate rule or method of testing. We have referred to this table frequently and again publish it for the benefit of correspondent and others of our readers who may require the information.

**Rule for Determining Resultant Temperatures.**

| Temp. of Outside Air | Coefficient Heat per Sq. Ft. per Hour per Deg. | Total Heat per Sq. Ft. per Hour | Resulting Temperature of Room | Difference Temp. Radiator and Room |
|---|---|---|---|---|
| —10 | 1.85 | 288 | 64.7 | 115.3 |
| 0 | 1.8 | 270 | 70 | 150 |
| 10 | 1.75 | 253 | 75.1 | 144.9 |
| 20 | 1.7 | 236 | 81 | 139 |
| 30 | 1.65 | 218 | 86.5 | 133.5 |
| 40 | 1.6 | 203 | 93.1 | 128 |
| 50 | 1.55 | 188 | 98.7 | 122.5 |
| 60 | 1.5 | 172 | 104.7 | 116.5 |
| 70 | 1.45 | 158 | 110.5 | 109.5 |
| 80 | 1.4 | 142 | 117.1 | 102.9 |
| 90 | 1.35 | 130.5 | 123.5 | 96.5 |
| 100 | 1.3 | 117 | 130.3 | 89.7 |

This table, although calculated for steam with the radiator at temperature of 220 degrees Fahr. is practically correct for hot water radiation or for steam at any pressure or temperature.

## WHISTLING NOISE IN HEATING SYSTEM CAUSED BY AIR.

Editor, "Domestic Engineering":—In one hot water heating plant of at least a hundred I must have installed, I find a whistling noise is produced in it when fired to bring the water to 160 degrees or 180 degrees F. The plant is very satisfactory otherwise.

I enclose a sketch of the usual way I install, having the pipes parallel and pitching, etc., the expansion I always run independent and connect to boiler below return. Now I am told this return pipe connection is the cause for this whistling noise, and I am advised to cut it out and connect to a return arm. I show a broken line of the proposed connection. This would eliminate that part marked A and A

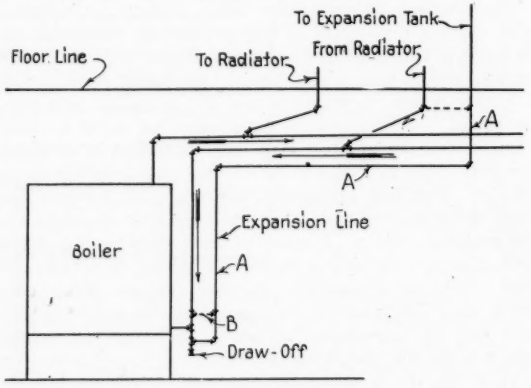



**Fig. 1.**

in the sketch. This plant is in a bungalow of about the six- and seven-room type.

Kindly explain what causes this trouble.

Chicago. V. C. D.

The trouble reported by correspondent is a little unusual and is undoubtedly caused by air. The sketch submitted is shown herewith as Fig. 1.

The method of connecting the expansion line below the return to the boiler is undoubtedly wrong. The weight of the water in this line exerts a static pressure directly against the returning water from the circulating system or that of the returning circulation through the drop leg of the return. The dotted line connecting the expansion line with the return from the first floor radiator is shown as noted in the communication. The connection indicated is much better than the original method. Why not place a tee in the drop leg of the return, immediately above the

connection to the boiler, as we have shown at B and connect the expansion line to the system at this point? This would but slightly change the present method and would alleviate the trouble?

## A HEATING COIL THAT FAILS TO CIRCULATE.

Editor, "Domestic Engineering":—I am sending you a rough sketch of a coil that won't circulate. Give me a remedy and I will thank you very much.

Illinois. B. L. E.

When a radiator or coil does not circulate properly, and it is certain that this stoppage is not due to an obstruction

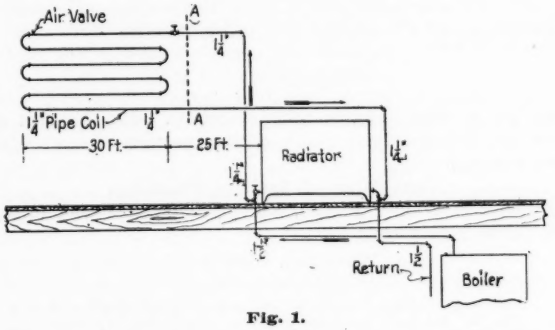



**Fig. 1.**

in the piping, the trouble can usually be traced to one of two causes; either the supply main is too small for the service required or some radiator or coil first connected robs the circulation from those connected beyond that point, a circumstance due to the method of connecting first radiator or coil.

Fig. 1 illustrates the sketch submitted which we have changed slightly the better to show the conditions. At the line AA there is a slight offset in the wall and the piping follows this offset. The offsets in the piping due to the making of connections are not shown as they do not in any way bear upon the conditions of the circulation.

Correspondent, on his sketch, gives this additional information. "The coil will not circulate. Has about 1 inch fall from air valve back to connection to feed. Supply and return to coil taken off feed and return to radiator just below the supply valve and return connection. Radiator is about 25 feet from the coil. Radiator heats good. How would you suggest changing the connections to make the coil work. The coil sets 4 ft. from the floor."

We are inclined to think that the reported trouble is due to both of the causes we have suggested. Using circle area as a basis of computation, the radiator is supplied with a 1-inch valve, area .78 sq. inches, and the coil 1¼ inches, area 1.22 sq. inches—.78+1.22=2.00 sq. inches. The area of the 1½-inch supply is but 1.76 sq. in. whereas it should be in excess of 2.00 sq. inches.

To favor the circulation to the coil, using connections of the size given, the elbow on the end of the 1½-inch main should be 1½-inch and the reduction should be made on the upright at the tee. This tee should be 1½x1¼x1-inch using the side, or 1-inch connection for the radiator and the top or 1¼-inch for the connection to the coil.

## ABOUT SHUTTING OFF HOT WATER RADIATORS PERMANENTLY.

Editor, "Domestic Engineering":—I have a customer who has a hot water heating system in his house, and he has now decided not to use the radiators upstairs. Can this be done with safety? If so, kindly explain how it should be done. B. K., Iowa.

Ordinarily the circulation to any one or more of the radiators of a hot water heating system may be shut off with perfect safety by closing the radiator valve. A small hole through the valve permits of a little circulation through the radiator which is calculated to prevent freezing.

In cases of extreme exposure or extremely low temperature, however, this circulation might not prove sufficient, and it is the safer method to partially open the radiator valve.

Should correspondent's customer desire to discontinue the heat to the second floor for the entire winter, we suggest that the riser connections in the basement be cut and the tees plugged. This can be done with very little expense, and when again heat is desired on the second floor the risers can be re-connected, unions being used, and at this time, if desired, a gate or globe valve can be placed on each riser for closing off the circulation. In this event a plugged tee should be placed above the valve for draining the risers and second floor radiators.

### New Definition of Normal.

A new working definition of "normal" has been devised by the Manufacturers' Association of Connecticut. It has discarded the plan frequently followed by statisticians of taking either some pre-war year or conditions of war-time peak production as the normal. Instead, it has adopted the plan of having each plant determine the number of employees required to operate its present equipment and the number of working hours per week beyond which operations would be regarded as overtime. The product of these two gives the number of man-hours per week when the plant is in "normal" operation. It becomes a simple matter to estimate the percentage of normal at which the plant is actually operating in a given period. The actual average number of employees in a designated period, multiplied by the actual number of working hours, gives the total of man-hours. The relation of this to the normal number of man-hours will indicate the percentage of normal at which the plant is operating. On this basis of calculation Connecticut industries in October were operating at an average of 66.6 per cent of normal, as compared with 57.9 per cent in September. The extreme range was from 45 to 96 per cent. The latter figure represents the Danbury district, where hat making is the leading industry. Hat manufacturers evidently have enjoyed a very brisk business.

### Late News from Florida.

During the month of November building permits issued in Miami were valued at $439,500, bringing the total for the year up to $4,758,100. Permits issued in St. Petersburg had a valuation of $235,000; Orlando issued $125,000 worth of permits; Pensacola $90,134; and Tampa $288,624.

Frank Mosely, Panama City, has secured the plumbing and heating contracts on the proposed extensions to the State Capitol building in Tallahassee. The heating contract amounts to $10,944.50, and the plumbing $5,446.50.

Plans are being prepared for the construction of a $650,000 court house in Hillsborough county to replace the old building soon to be sold.

The City Commissioners of Jacksonville have authorized the purchase of eight additional drinking fountains to be placed in sections near the center of the city. Construction of several comfort stations is also planned. The commissioners have also sanctioned the purchase of the Springfield sewer system, which will mean considerable work for the plumbers as many connections will soon be made.

The West Palm Beach Home Builders Co. will soon start the construction of twelve homes in West Palm Beach.

Carl E. Aubuchen, Key West, has been authorized to construct a pipe line from the Mainland to Key West to supply the city with fresh water, which will mean much new work for the plumbers in that vicinity.

# DISPLAY *and* ADVERTISING IDEAS *from* CANADIAN PLUMBERS

*Modern Business Building Methods Used by the Progressive Men of the Plumbing Trade in Canada Include Good Show Window Displays and Snappy Advertising*

*By* Ernest A. Dench

IT IS always educational to visit another country and see how the plumber does things. With this specific view in mind, I recently returned from Canada after paying the Canadian Pacific Railway for something like 7,000 miles of transportation over its lines.

Of all the seven provinces that I visited, Ontario appears to possess the most enterprising plumbing establishments, if their window displays are any criterion.

**A Motor Car Out of Plumbing Supplies.**

Mulder's Plumbing Shop, Toronto, Ont., constructed a clever replica of a motor car in their show window, entirely with the assistance of plumbing supplies. Part of a hot water tank served as the body of the car, while the wheels were made out of circular parts. The remaining parts of the car were formed with supplies carried in stock by the average plumbing establishment. It is so unusual to see novel trims like this by plumbing establishments that this display attracted considerable attention and discussion. While it may be difficult to trace the exact increase in business resulting from this display, it undoubtedly caused many folks to remember Mulders when they needed a plumber.

**A Window Drive on Faucets.**

Carson & Burton, Fort William, Ont., floored their plumbing window display with ginger brown linoleum. Nickel faucets of all kinds and descriptions were arranged on the floor at equal distances apart. The faucets looked like silver and formed a very striking exhibition.

**Going After Odd Jobs.**

While in Bowmanville, Ont., I chanced to look over the local paper and found this very effective ad devoted to odd jobs, inserted by Greenaway & Elliott. Here it is:

**Have the Odd Job Done Now.**

*Does your furnace need repairing?*
*Greenaway & Elliott will do it promptly and satisfactorily. We supply parts for all makes.*
*Do you know what is wrong with that heater?*
*Greenaway & Elliott are experts on putting all makes in first class condition.*
*How many pans, tins or kettles have you that leak?*
*Greenaway & Elliott will repair them as good as new. No need of buying new ones.*
*Do you need the services of a plumber, tinsmith or steamfitter?*

**A Window Card Query.**

The Lakehead Engineering Company, Port Arthur, Ont., had a convincing window card devoted to heating plant repairs. The card was worded in the following vein:

*"Coal is going up your heating plant.*
*Is it giving satisfaction?*
*If not, let us fix it for you."*

The remaining part of my trip across Western Canada did not yield any plumbing window display ideas that were good enough to pass along to other plumbers. But this part of the trip did produce several excellent examples of newspaper advertising:

**Importance of Sanitary Plumbing.**

Nisbet & Walker, Regina, Sask., had the following to say of sanitary plumbing:

**"Sanitary Plumbing**

*IS of vital importance to the home.*
*Bad plumbing breeds disease and hastens death. You pay for the best, why not get your work done by experts at the business?*
*You will find them calling* 30004."

**Appealing to Owners of Country Homes.**

The Engineers' and Plumbers' Supply Co., Ltd., Regina, Sask., endeavored to sell plumbing and heating systems for country homes in Western Canada, where a big market for both exists. A four column announcement, occupying twelve inches, was used. The body of the advertisement was occupied by a large sketch of the skeleton of a house with all the rooms exposed, showing how the plumbing and heating systems are installed. At the top and lower parts of the ad, the following arguments were allowed to sink in:

**"Are You Content?**

*So many thinking men are asking us for full information regarding their Plumbing and Heating Systems for Country and City Homes. They realize that they can have Comfort, Sanitation and less worry and cost.*

**What Are You Going to Do About It?**

*If you were living in back ages you could not avail yourself of the modern conveniences at your disposal now. Why put up with endless dirt and worry and risk your Health and Comfort? Write us for particulars."*

**Making the Bathroom Cheerful.**

Thacker & Holt, Victoria, B. C., singled out the bathroom for special attention. They enquired:

**"Is Yours a Cold Looking Bathroom?**

*Of course one doesn't expect it to appear as cozy as a 'den' but a visit to our showroom will show you how simple it is to have a cheerful bathroom."*

**A Sanitary Window Exhibition.**

The James Robertson Company, Montreal, utilized its show window facilities to the fullest extent. A recent sanitary exhibition contained a large, white china stand at each side, with a jardiniere on top. Inside the jardiniere was a potted shrub. Both the stands and jardiniere were prettily decorated with wild pink roses. The space in between each stand was occupied by a white waste paper basket for the bathroom, at one side, and a white bathroom stool at the other side. The first object that caught the spectator's eye was the bubbling electric fountain at the center front. Growing ferns in pots were cleverly grouped around the base

of the fountain in order to produce a rock garden effect. The green casement curtains that hung down the front sides of the window added a pleasing touch to the setting. White mosaic tiles covered the floor. The only barrier at the rear was a nickel plated bar, which permitted a full view of the plumbing goods on display in the showroom.

**The Permanent Bathroom as a Window Setting.**

The Empire Brass Manufacturing Co., Ltd., Toronto, Ont., has constructed its window display space to form a permanent bathroom. No pains or expense have been spared to make this look like the genuine article. This setting has real white tiled walls, with a walled-in porcelain bath tub and a white enameled door with a silver knob. A mirror on the wall with a white enamel border is flanked on either side by an electric light extending from a white painted bracket. The walls are bordered with slabs of marble. On the floor by the bath tub a bath rug is laid. A white pedestal lavatory and a toilet completes the setting.

**Hints for the Bathroom.**

The Woolworth Company, Toronto, Ont., featured supplies for the bathroom in a window display. And here's a hint for the plumber, because such sidelines can be carried in stock by the plumber with very little risk. The central feature of this display was a board trimmed with white crepe paper, to which were attached the numerous little articles that make for bathroom comfort. The purpose for each article was suggested by showing the articles in actual use. There was a cake of soap in the soap dish, a glass tumbler in the glass holder, the tooth brush was in its proper holder, the towel rack had a towel over it, a roll of toilet paper was inserted in the paper rack, etc. There was no excuse for any person not being reminded of any article that his bathroom lacked.

(All Rights Reserved.)

**The Monthly Meeting of the Ladies' Auxiliary of Pittsburgh Master Plumbers' Association.**

The Ladies' Auxiliary to the Pittsburgh Master Plumbers' Association held its regular monthly meeting on Wednesday, December 7th, at the Hotel Chatham. Many of the members were in attendance. Mrs. George B. Stewart, president of the Auxiliary, instituted a little guessing game after the meeting had adjourned. The members were kept busy for about three-quarters of an hour guessing some of the things in a plumbing shop. Mrs. Ed. F. Cass won first prize for being the most proficient guesser. Mrs. Stewart and Mrs. J. H. Keane served home-made candies. The next meeting of the Auxiliary will be held at the home of Mrs. George F. Schade, 266 Forty-second Street, on Wednesday, January 4th.

## OBITUARY.

**Joseph P. Melia.**

Joseph P. Melia, 163 Winchester Street, Newton Highlands, Mass., who with his brother, Edward F. Melia, was engaged in the plumbing business in Newton, Mass., was killed in an automobile accident in the Chestnut Hill Section of Newton when his automobile overturned during the night of December 11. His body was found beneath the auto by a Newton police officer. He was born in 1894.

**Unemployment Still Is Decreasing** in Pennsylvania, according to the semi-monthly report of the State Department of Labor and Industry, which shows the number registered for work at the various district offices as of December 1, to have been 269,322, as compared with 271,430 on November 15 last. The figures by districts follow: Altoona, 13,020; Erie, 13,100; Harrisburg, 11,292; Johnstown, 9,260; McKeesport, 3,940; New Kensington, 3,750; Philadelphia, 128,000; Philadelphia, women, 11,600; Pittsburgh, 51,400, Scranton, 17,725; Williamsport, 6,235.

Hartford, Conn.—Ray B. Marsh, 16 Trumbull Street, has the plumbing contract on the Travelers' Insurance Company's building being erected here.

Staunton, Va.—W. S. Moffett is installing the heating systems in the Fishman Military school in Waynesboro, and in the Staunton Military Academy.

Bristol, Conn.—Murphy & Sheehy, 179 West Street, have been awarded the plumbing and heating contracts on the new Bristol high school building.

Staunton, Va.—L. V. Harris, 21 North Central Avenue, has the heating contract on the $10,000 residence of S. H. Purcell being erected in Greenwood.

Buena Vista, Va.—The G. A. Brown Co. has been awarded the contract to install heating in the $10,000 residence of E. Gowan to be erected in Glasgow, Va.

Bristol, Conn.—The F. A. Shaffer Co. has the heating contract on the Tremont Street school, and the plumbing in the John Jennings school, both to be erected here.

Pittston, Pa.—Edward A. Spohrer, who recently started in the plumbing and heating business here, has secured the contract to install heating in the Jewish Synagogue to be erected on Broad Street.

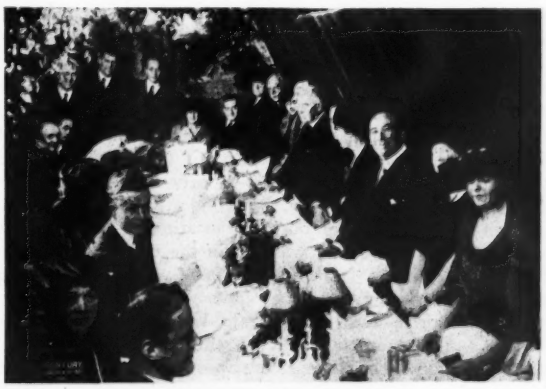
Hartford, Conn.—Taylor & Bartone, 571 Front Street, have the contracts to install plumbing in eight residences to be erected on Maple Avenue, and a large residence to be erected in South Manchester.

Salem, Va.—J. E. Carper & Co., 903 College Avenue, will install plumbing in the new College Lutheran Church. The heating contract on this structure was awarded the Langley Heating Co., of Langley, N. C.

Salem, Va.—The Salem Plumbing & Heating Co., 321 East Main Street, has the plumbing and heating contract on the $35,000 residence of H. B. Apperson, which will include four modern tiled bathrooms.

New Britain, Conn.—J. J. Erwin & Co., 8 Erwin Place, have the contracts to install plumbing and heating systems in the Farmington Inn, Farmington, Conn., the residence of Miss J. Dobson on Lincoln Avenue, and a nine-apartment building on East Main Street.

Providence, R. I.—The Frank Dupuis Company, Inc., has been awarded the contract to install plumbing and heating systems in the 12-room addition to the James C. Potter School on Newport Avenue.



**A Banquet in a Boiler.—The New York Steam Corporation Entertained Its Friends and Neighbors in a Power House Boiler in New York City, December 3, 1921.**

Exchanging Ideas is the Foundation of Progress

# What Associations Are Doing

Through United Effort the Individual Succeeds

**The Annual Meeting of Cleveland Heating and Piping Contractors.**

The annual meeting of the Heating and Piping Contractors Cleveland Association was significant this year in that after the real business of the afternoon was disposed of, business itself was disposed of entirely at the banquet and dance that followed at The Hollenden, Cleveland, Ohio. Speaking was conspicuous by its absence, for which the leaders in the association, noted for action and not for words, were apparently duly thankful. Be that as it may, the well known good time was enjoyed by all. Ladies were present at the social affair after the election, for the first time. About 150 attended.

The election resulted as follows: President, F. M. Daughtery, of the Grinnell Company; vice-president, M. L. Crowell, of the Crowell & Smith Company; secretary, Charles Mallett, of the Schneider Plumbing Company; treasurer, A. E. Welker, of the Price & Welker Company. Appointed to the executive committee were Walter Klie, of the Smith & Oby Company; William Clarke, of the Becker-Seidel Company; Ed Maurer, of the Maurer Bros. Company; M. Jones, of his own firm; W. B. Van Sickle, of his own firm. New delegates are George Spohn, of the Spohn Heating and Ventilating Company, W. B. Van Sickle and F. M. Daugherty, with Walter Klie, Julius Roemer and Ed F. Bohm, alternates. Adolph Weiss, of the Weiss Plumbing and Heating Company, was named delegate to the wage and agreement commission of the Cleveland Building Trades Employers Association. The meeting marked the admission of another new member, the Chafer Heating & Ventilating Company.

Retiring President Walter Klie was presented with a handsome sterling silver fruit dish, a mark of appreciation for the work he has done as leader of the institution. The presentation, as might be expected, was done by Ed Maurer, of the Maurer Bros. Co., who has a particular gift to say the right words on such occasions. Following the presentation address by Mr. Maurer, several of the leading members of the organization spoke briefly on subjects befitting the occasion.

**Massachusetts Master Plumbers to Divide State Into Ten Districts.**

A meeting of the directors of the Massachusetts Master Plumbers' Association will be held before the first of the new year to complete arrangements for the districting of the state into ten districts, each district to be in charge of a resident director, as authorized by vote of the association at its mid-year outing and business meeting. The districting and selection of directors was left in the hands of the directors at that time. It has not definitely been decided just how the districting shall be done. The plan to have a county comprise a district and to have the more sparsely settled sections combine will probably not be adopted as it has been found more convenient in some instances to combine sections of two or three counties into one district. It it probable that the matter of facility in reaching some central point for a group, both as to location and to railroad facilities, will largely enter into the method of bounding districts. It has been practically decided to have Worcester county comprise district No. 1 but beyond that the district lines have not been established. Directors will keep in close touch with the master plumbers within their jurisdiction and will be the connecting link between the state organization and the members, thus creating greater interest in association work and bringing about a much larger membership in the organization.

**Reno Master Plumbers Enjoy Banquet.**

Not like the banquets usually sponsored by those whose Goddess of Fortune has unhesitatingly severed their nuptial ties was the banquet held by the Reno Master Plumbers' Association, Reno, Nev., on Wednesday evening, December 7. This banquet was not for the celebration of good luck; it was, rather, a banquet for the discussion of associational affairs and for meeting many men in the trade. Harry Kelly, state president, officiated as toastmaster, and supped the unadulterated ale of Father Adam in commemoration of those who have fallen by the wayside because old man Foresight had not befriended them in the art of conducting business. He had reference to the coffin placed just inside the entrance door with the epitaph: "Here Lies a Master Plumber Who Cut Prices."

The banquet was well attended, and from the manner in which the many members expressed themselves it was more than evident the affair was successful.

The Reno master plumbers meet every Wednesday night, two of these meetings every month being devoted to the National Trade Extension Bureau lectures.

**Westchester County Plumbers Hold Second Annual Ladies' Night.**

The second annual ladies' night of the Westchester County Master Plumbers' and Steamfitters' Association was held at Lawrence's Inn, situated among the hills of Mamaroneck, N. Y., on Thursday, December 15. More than 250 master plumbers, their wives and guests attended the affair which was a pleasant success from beginning to end.

G. Archibald, a member of the committee in charge of the occasion, greeted the guests as they arrived, and complimented on the excellent attendance.

During the course of the dinner several vocal selections were rendered, which added to the nicety of the menu itself. Following the dinner, Miss Beatrice Smith, daughter of Ed. Smith, a master plumber of Portchester, entertained those present with two interesting selections. She was followed by the Association's Minstrel Troupe which played its part in a most entertaining fashion. Ten selections were offered, one by the Association Band, and two ensembles, while the others were contributed by William Martin, Harry Traugott, Thomas Noonan, Louis Young, George H. Boettner, Alex Magee and George F. Boettner, chairman of the minstrels. Alex Magee also officiated as interlocutor. The ensembles consisted of the entire troupe, as follows: George F. Pressmar, Charles Haas, Charles Morganweck, William McGuire, William Lippoth, Charles H. Ryan, A. H. Karl, Harry Traugott, William Martin and Louis Young.

Dancing furnished the remainder of the entertainment features, and it was not until after the witching hour that the

humming of motors died away into the distance. Before ending, it must not be forgotten that Martin Noonan created a sensation with his high tenor voice, and his mixture of Italian and French sketches added much to the program.

The committee in charge of the night was composed of William McGonigal, G. Archibald and J. Farrell.

Among the members of the supply fraternity present were Mr. and Mrs. H. M. Bullard, of Mount Vernon; Mr. and Mrs. T. W. LeVines, Pittsburg Water Heater Co., of New Rochelle; Mr. and Mrs. G. J. Dohn, of Dimock & Fink, Mount Vernon, and Mr. and Mrs. A. A. Studwell, of Abendroth Bros., of Portchester.

**Montreal Master Plumbers' Annual Meeting.**

A highly satisfactory financial condition, and excellent progress in organization work was revealed in the reports read at the annual meeting of the Montreal Master Plumbers' Association held at the Builders' Exchange, Montreal, Quebec, Canada, on Wednesday evening, December 14.

The new slate of officers proposed by the nomination committee was elected unanimously, as follows: President, H. Lavigueur; first vice-president, George Delaney; second vice-president, Jos. A. Francoeur; past-president and representative to the board of directors of the Builders' Exchange, D. A. Bethune; Chairman of the Hygiene Committee, A. Charette; Chairman of the Arbitration Committee, R. J. McCauley; Legislation Committee, Arthur Noel; Apprenticeship Committee, P. C. Ogilvie; Auditors, John A. Gordon, Jos. Belisle, O. Caron; Trustees, J. E. Hardy, John Colford, W. G. Borland; Secretary, John Watson; Executive Secretary, D. Trotter.

The annual report, presented by the retiring president, reviewed the satisfactory way in which the Association's business had progressed during the year. Past-president Bethune referred to the pleasant relations which had existed between himself and the officers and members, and expressed the hope that his successor would enjoy the same courtesy.

James Ballantyne, mayor of Montreal, West, in proposing a vote of thanks to Past-President Bethune and the retiring officers, emphasized the amount of difficult work that had been undertaken by the association under the guidance of the retiring officers, during the past two years.

He drew special attention to the strike of plumbers of local 144 of the International Union, pointing out that through the able generalship of the president and executive and the co-operation of all the members their contracts had been carried on throughout the city and surrounding districts with a minimum amount of dislocation. He extended to Mr. Bethune personally his warmest thanks for work which was highly appreciated by all.

H. Lavigueur, on taking the chair, thanked the members for the honor conferred upon him, and which had been altogether unsolicited. He trusted that the members would give him all the support they had given his predecessor, Mr. Bethune.

John Watson agreed to make full and complete arrangements for the plumbers' curling bonspiel. The association also agreed to leave in the hands of D. A. Bethune full arrangements for having two complete plumbers' curling teams in the builders' bonspiel.

John Watson submitted the financial statement for the year, and congratulated the association on the excellent condition of its finances.

D. Trotter, executive secretary, was presented with a wallet filled with dollar bills as a mark of the members' appreciation of his efficient work during the past year.

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**Figures from forty-four leading cities** show that $603,000,000 was spent for building projects from January to October as compared with $611,000,000 for the same period last year. More than half of the current sum went for the construction of dwellings.

**January 17 and 18, 1922.—The 28th annual convention of the Wisconsin Master Plumbers' Association, to be held in the Gold Room, Hotel Wisconsin, Milwaukee, Wis.**

**January 24, 25 and 26, 1922.—The twenty-eighth annual meeting of the American Society of Heating and Ventilating Engineers, to be held in the Pennsylvania Hotel, New York City.**

January 24, 25 and 26, 1922.—The annual convention of the Illinois Master Plumbers' Association, at Champaign, Ill. The sessions will be held at the Masonic Temple.

**February 6, 7 and 8, 1922.—The annual convention of the Minnesota Retail Plumbers' Association. The city, where the convention is to be held, has not yet been announced.**

**February 14, 15 and 16, 1921.—The annual convention of the Ohio State Association of Master Plumbers, at Canton, Ohio.**

February 20, 21 and 22, 1922.—The annual convention of Nebraska Retail Plumbers' Association, at Omaha, Neb.

March 7, 8 and 9, 1922.—The annual convention of the State Association of Master Plumbers in North Dakota, at Grand Forks.

**March 13, 14 and 15, 1922.—The annual convention of the Indiana Society of Sanitary Engineers to be held at Indianapolis.**

March 27 and 28, 1922.—The annual convention of the Kansas Master Plumbers' Association, at Salina, Kansas.

April 10, 11 and 12, 1922.—The annual convention of the Oklahoma State Association of Master Plumbers, at Shawnee, Okla.

April 17 and 18, 1922.—The annual convention of the Tennessee State Association of Sanitary Engineers, at Memphis, Tenn.

April 18, 19 and 20, 1921.—The next annual convention of Iowa Master Plumbers' Association, in Mason City, Iowa.

May 2 and 3, 1922.—The annual convention of Colorado Society of Sanitary and Heating Engineers. It has not yet been decided where the convention will be held.

May 12 and 13, 1922.—The annual convention of the Association of Master Plumbers of the State of Washington, at Tacoma, Wash.

May 15, 16 and 17, 1922.—The annual convention of the Kentucky State Association of Master Plumbers in Ashland, Ky.

May 22, 23 and 24, 1922.—The annual convention of the State Association of Master Plumbers of California, at Sacramento, Calif.

June 6, 7 and 8, 1922.—The fortieth annual convention of the National Association of Master Plumbers, in Detroit, Mich.

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**Gold holdings** of the United States December 1 were $3,545,125,101. The world's gold monetary stock is estimated at roundly $9,000,000,000, so that the United States holds about 40 per cent.

**The economic recovery of Europe,** while necessarily slow and difficult, is making substantial progress, Secretary Hoover declared this week in a review of international trade conditions. The situation contains great danger, he says, but it is "not at all as gloomy as some statements would make it appear." A survey of European conditions, he says, will show that the danger of Bolshevism is past, partly through improved standards of life and partly "through the salutary lesson to Russia."

# AMONG THE WHOLESALERS AND MANUFACTURERS

## PLUMBING AND HEATING SUPPLY BUSINESS CHANGES HANDS.

Frank E. Fielder & Co., 123 Salem Avenue, East, Roanoke, Va., have recently purchased the plumbing and heating supply business of the Englesby & Bros. Co., in that city The officers of the Fielder Company are: Frank E. Fielder, president; J. K. Peters, vice-president, and Frank Engleby, secretary and treasurer. B. A. Klinefelter has been appointed general manager.

## TO MANUFACTURE NIPPLES AND FITTINGS.

The Baltimore Pipe & Nipple Co., Inc., Baltimore, Md., has been organized to manufacture nipples, bolts, rods and pipe fittings, and has started operation in a plant in that city.

## MOVES CHICAGO OFFICE.

The Hoffman Heater Co., Lorain, Ohio, has moved its Chicago branch office from 521 South Dearborn Street to 122 North Wells Street where larger and more modern quarters have been secured. A. D. Hoobler is manager of the branch.

## MOVES NEW YORK OFFICE.

The Hercules Chemical Company, Inc., of New York City, has moved its offices from 347 West Broadway to 21 East Fortieth Street, where larger quarters have been secured. The company's factory will remain in Albany, N. Y.

## TO TRANSFER DEPARTMENT.

The Detroit Range Boiler & Steel Barrel Co., Detroit, Mich., will soon transfer its bilge barrel and drum department from the Detroit plant to its plant in Toledo, Ohio. Additional room has been obtained in Toledo by the erection of a portable steel building. The machinery of the department will be transferred before the first of the year.

## MOVE PHILADELPHIA AND BOSTON OFFICES.

Manning, Maxwell & Moore, Inc., of New York, have moved their Philadelphia office from the Lincoln Building to the Pennsylvania Building, Fifteenth and Chestnut streets. New quarters have also been taken in Boston, the company having moved from 10 High Street to the Textile Building, 99 Chauncey Street, rooms 802 and 803.

## NEW FACTORY ADDITION BEING CONSTRUCTED.

The Novelty Steam Boiler Works Co., 917 South Howard Street, Baltimore, Md., is constructing an additional factory building in the 900 block on Howard Street, in that city. The new structure will be two stories, 110x155 ft., and will be completed early in February. The officers of the company are Oscar S. Jennings, president; C. C. Lanman, vice-president and general manager; Raymond J. Kitchen, secretary, and Harry D. Meacham, treasurer.

## NEW SUPPLY HOUSE IN FORT SMITH, ARK.

The Bell Supply Co. is the name of a new concern which has just opened a plumbing and heating supply business at 108 North Tenth Street, Fort Smith, Ark. Arch. L. Bell is president and general manager of the new company.

## IRON PLUMBING SPECIALTIES MANUFACTURERS FORM NATIONAL ORGANIZATION.

At an enthusiastic meeting and luncheon held at the Cleveland Hotel, Cleveland, Ohio, on Wednesday, December 7th, a group of iron plumbing specialties manufacturers formed a national organization for the promotion of common interests among its members and to improve conditions in the business.

The new organization was launched with a membership of fifteen firms, and the attitude of enthusiasm permeating the meeting made it apparent that a 100 per cent organization in so far as membership is concerned, would quickly be secured. Temporary officers were elected and considerable progress made in outlining a program and educational advertising campaign soon to be started.

N. J. Kennedy, president of the Detroit Master Plumbers' Association, who attended the meeting as a guest, was introduced by John Heinkel, chairman of the meeting, and delivered a clear, clean-cut talk on the value and potency of organization work, pointing out the pitfalls and dangers as well as illuminating the value of service to be rendered by the members of an organization to all the allied interests—the jobbers and retail contracting plumbers as well as the great consuming public. The keynote of Mr. Kennedy's address was "that an organization's or firm's right to exist and prosper was measured by the value of the service it rendered to the public."

Many of the other speakers endorsed and recommended the National Trade Extension Bureau for the work it has carried on and the influence it is having on the development of new and profitable business for the plumber.

The next meeting of the organization will be held at the Gibson Hotel, Cincinnati, Ohio, on Wednesday, March 8th, at which time it is planned to have complete publicity plans ready.

The following members were present at the meeting:

John Heinkel (temporary president), Blake Specialty Co., Rock Island, Ill.; George F. Zimmerman, Central Specialty Co., Detroit, Mich.; Norman Boosey, Greenwood Mfg. Co., Detroit, Mich.; F. M. Poler, A. L. Swett Iron Works, Medina, N. Y.; H. W. Robbins, The Bignall Co., Medina, N. Y.; F. A. Newbury, The Newbury Mfg. Co., Monroe, N. Y.; C. M. Bread, The Treaty Co., Greenville, Ohio; J. A. Zurn, The J. A. Zurn Mfg. Co., Erie, Pa.; Thomas P. Wade, The Wade Iron Sanitary Mfg. Co., Chicago; J. Stuart Reynolds, The Richmond Foundry & Mfg. Co., Richmond, Va.; B. W. Fredrick, Sanitary Company of America, Linfield, Pa.; Sam Hirshstein and Joseph Goldman, Josam Mfg. Co., Michigan City, Ind.; M. C. Rosenfeld, Grabler Mfg. Co., Cleveland, Ohio; F. A. Mengelsdorf, The Cooper Foundry Co.,

Atchison, Kans.; S. H. Taylor (temporary secretary), Wolverine Foundry Co., Detroit, Mich.

## KALAMAZOO SANITARY MFG. CO. TO HAVE NEW ADDITION.

The Kalamazoo Sanitary Mfg. Co., Kalamazoo, Mich., will soon start the construction of a one-story addition, 112x420 ft., to its plant in that city. The new building will house two large kilns, each 375 ft. long, a bisque wareroom, 60x48 ft., a dipper room, 60x48 ft., a dry room, 60x48 ft., a green sagger dry room, 40x48 ft., and the present shipping building will be enlarged by an addition, 76x48 ft. The proposed additions will cost approximately $200,000. Another improvement will be the installation of a sagger machine, capable of making 400 saggers a day.

## KELLY & JONES CO. MOVES CHICAGO OFFICE.

The Chicago office of the Kelly & Jones Co., Pittsburgh, Pa., has been moved from the Ashland Block to the property recently purchased at Fifteenth Street and Western Avenue. The building in which the office is now located is being remodeled to suit the company's business. Ground has already been broken for the construction of a pipe warehouse building, 140x60 ft., on property adjoining the office location. This structure will be rushed to completion and will be put in operation early in the spring.

## NEW ADDITIONS AND IMPROVEMENTS.

Crane Company, Chicago, is having plans prepared by Graham, Anderson, Probst & White, 8 East Jackson Boulevard, Chicago, for the construction of a two-story foundry building, 160x500 ft., at 4100 Kedzie Avenue. This structure is estimated to cost approximately $800,000.

The Tirrell Mfg. Co., Bridgman, Mich., recently organized to manufacture water pumps and machinery, has completed the construction of a plant building in that city. L. L. Tirrell is president of the company.

## BUILDING PERMITS FOR NOVEMBER.

### Figures From 204 Important Cities of the United States Indicate 98 Per Cent Gain Over November, 1920.

November building statistics from 204 cities considered in the light of present basic conditions unqualifiedly present the most optimistic case for construction offered by any November since the memorable November which gave the world an armistice.

These statistics as reported to "The American Contractor" show a 98 per cent gain over the corresponding month of 1920, which, in turn, showed a 50 per cent loss from the eleventh month of 1919. This puts 1921 figures practically on a par with 1919 and double those of 1920.

#### False Prosperity in 1919.

To get the true meaning of what this means, we must consider the underlying conditions of the three years. In November, 1919, we were afloat on an artificially made sea of prosperity. There was constant play for higher and higher wages by building trades which were not strong enough in numbers to fill the jobs and consequently the condition was one of bidding for man power which constantly diminished in productive efficiency. The projects undertaken were largely for industrial purposes and all industry was in the position of the small boy at the feast—eyes were bigger than stomachs. At the very time the prosperity was at its height there was universal warning of its artificial and insecure basis. Therefore, a measure of building permits in November of that year did not mean much in light of the fact that all industry was riding to its fall. Specifically, the value of the permits themselves was on the inflated basis of the times. A dollar in November, 1919, did not go far.

#### November, 1920, Showed Reverse Motion.

How different was the situation in 1920's eleventh month. Part of the deflation of general business had been weathered. The price of building materials had shrunk and shrunk from its peak level. Labor was on the eve of shrinking and was picking up in efficiency in direct ratio to the situation which was fast becoming more men than jobs. The situation was a reversal of the 1919 situation. But in November, 1920, the mass of building permits had shrunk also until the net result from 203 cities was $74,098,500 as against $151,070,608 from the identical cities in 1919.

Which November bore the most promise—the November with the large volume of permits, or the November with the small volume of permits? Agreeing that November promises are in the nature of things promised for the ensuing year, we do not need to speculate which year's eleventh month held the most promise, for the results of the succeeding year in each case stand on record. The records show that November, 1920, with its small volume of permits held the most promise. The reason why has been gone into and the evidence is written in the constantly picking up volume throughout 1921.

#### Prospects for 1922 Are What?

Now we stand at the eleventh month of this year, and we want to know the promise for 1922.

The prospects for 1922 are basically better than they were in either 1919 or 1920. We have no discernable era of erratic inflation ahead. That period with its inevitable period of contract breaking in all business lines and contract deferring and permit shelving in the building industry has been weathered. We have been building up throughout 1921 on a sound basis. There has been no spectacular boom but much building activity has been going on as statistics and actual observance show to anyone. There is no good reason for much contract deferring and for permit shelving while business is on its present basis and the very favorable volume of permits speaks for itself.

The November total from 204 cities is $148,593,588. The reports in detail follow herewith:

| | November, 1921 | | November, 1920 | | | |
|---|---|---|---|---|---|---|
| | No. of permits. | Estimated cost. | No. of permits. | Estimated cost. | Per cent. Gain. | Loss. |
| **Alabama—** | | | | | | |
| Birmingham | 374 | $ 644,475 | 368 | $ 381,553 | 68 | .. |
| **Arkansas—** | | | | | | |
| Fort Smith | 53 | 105,230 | 26 | 34,936 | 201 | .. |
| Little Rock | 188 | 297,312 | 143 | 129,391 | 119 | .. |
| **Arizona—** | | | | | | |
| Phoenix | 50 | 86,903 | 142 | 171,192 | .. | 50 |
| **California—** | | | | | | |
| Alameda | 69 | 84,464 | 44 | 76,056 | 11 | .. |
| Berkeley | 208 | 438,942 | 85 | 119,351 | 267 | .. |
| Fresno | 253 | 405,988 | 242 | 312,925 | 29 | . |
| Long Beach | 390 | 1,254,500 | 324 | 828,110 | 51 | .. |
| Los Angeles | 4,242 | 8,685,775 | 2,640 | 6,267,660 | 38 | .. |
| Oakland | 646 | 1,235,174 | 400 | 563,676 | 119 | . |
| Pasadena | 362 | 701,988 | 227 | 309,304 | 126 | .. |
| Sacramento | 288 | 496,235 | 107 | 278,635 | 78 | .. |
| San Diego | 409 | 846,995 | 278 | 918,717 | .. | 8 |
| San Francisco | 613 | 2,144,606 | 384 | 1,469,940 | 45 | .. |
| San Jose | 89 | 238,100 | 48 | 56,815 | 319 | .. |
| Stockton | 93 | 165,130 | 74 | 77,685 | 112 | .. |
| **Colorado—** | | | | | | |
| Colorado Springs | 72 | 58,695 | 34 | 19,263 | 204 | .. |
| Denver | 490 | 981,600 | 174 | 159,060 | 517 | .. |
| Pueblo | 75 | 117,250 | 46 | 52,675 | 122 | .. |
| **Connecticut—** | | | | | | |
| Bridgeport | 85 | 168,315 | 92 | 275,249 | .. | 39 |
| Hartford | 189 | 973,100 | 150 | 185,977 | 423 | .. |
| New Britain | 70 | 122,805 | 79 | 64,549 | 89 | .. |
| New Haven | 132 | 528,177 | 89 | 223,878 | 135 | .. |
| **Delaware—** | | | | | | |
| Wilmington | 72 | 62,612 | 64 | 229,015 | .. | 73 |

| | November, 1921 | | November, 1920 | | | |
|---|---|---|---|---|---|---|
| | No. of permits. | Estimated cost. | No. of permits. | Estimated cost. | Per cent. Gain. | Per cent. Loss. |
| **District of Columbia—** | | | | | | |
| Washington | 628 | 2,328,127 | 406 | 466,145 | 399 | |
| **Florida—** | | | | | | |
| Jacksonville | 302 | 331,715 | 211 | 206,610 | 60 | .. |
| Miami | 315 | 440,000 | 329 | 473,300 | .. | 8 |
| Pensacola | 62 | 90,134 | 74 | 35,464 | 154 | .. |
| **Georgia—** | | | | | | |
| Atlanta | 376 | 667,661 | 174 | 364,965 | 82 | .. |
| Augusta | 174 | 207,084 | 135 | 66,213 | 212 | .. |
| Macon | 53 | 49,263 | 69 | 146,765 | .. | 67 |
| Savannah | 49 | 80,175 | 42 | 156,825 | .. | 49 |
| **Idaho—** | | | | | | |
| Boise | 81 | 57,676 | 64 | 188,484 | .. | 70 |
| **Illinois—** | | | | | | |
| Aurora | 22 | 31,112 | 28 | 8,125 | 282 | .. |
| Chicago | 721 | 12,389,000 | 260 | 3,838,700 | 221 | .. |
| Decatur | 70 | 128,275 | 42 | 134,550 | .. | 5 |
| East St. Louis | 52 | 98,670 | 53 | 108,049 | .. | 9 |
| Evanston | 62 | 462,700 | 31 | 68,055 | 579 | .. |
| Peoria | 54 | 172,236 | 27 | 28,875 | 496 | .. |
| Quincy | 2 | 11,900 | 2 | 14,500 | .. | 18 |
| Rockford | 80 | 100,465 | 85 | 90,850 | 10 | .. |
| Springfield | 133 | 287,975 | 118 | 49,550 | 481 | .. |
| **Indiana—** | | | | | | |
| Elkhart | 3 | 4,300 | 6 | 6,950 | .. | 39 |
| Fort Wayne | 83 | 1,178,760 | 56 | 15,800 | 917 | .. |
| Gary | 33 | 56,227 | 49 | 164,555 | .. | 72 |
| Hammond | 59 | 192,100 | 17 | 75,800 | 153 | .. |
| Indianapois | 640 | 1,071,319 | 454 | 601,436 | 78 | .. |
| Richmond | 19 | 12,825 | 24 | 34,200 | .. | 63 |
| South Bend | 210 | 343,027 | 157 | 1,555,363 | .. | 78 |
| Terre Haute | 55 | 136,070 | 50 | 33,525 | 305 | .. |
| **Iowa—** | | | | | | |
| Cedar Rapids | 73 | 92,478 | 62 | 73,923 | 25 | .. |
| Davenport | 58 | 119,290 | 29 | 41,895 | 184 | .. |
| Des Moines | 100 | 303,385 | 51 | 127,585 | 137 | .. |
| Dubuque | 17 | 37,200 | 11 | 18,263 | 103 | .. |
| Mason City | 22 | 22,708 | 14 | 59,920 | .. | 63 |
| Sioux City | 84 | 334,760 | 35 | 59,650 | 461 | .. |
| **Kansas—** | | | | | | |
| Kansas City | 57 | 126,925 | 26 | 129,875 | .. | 3 |
| Leavenworth | 5 | 19,800 | 3 | 8,000 | 147 | .. |
| Topeka | 76 | 91,670 | 39 | 69,070 | 32 | .. |
| Wichita | 253 | 399,841 | 78 | 131,950 | 203 | .. |
| **Kentucky—** | | | | | | |
| Covington | 45 | 217,425 | 26 | 31,400 | 592 | . |
| Louisville | 143 | 397,150 | 127 | 205,000 | 93 | .. |
| Lexington | 34 | 45,750 | 44 | 78,210 | .. | 42 |
| **Louisiana—** | | | | | | |
| New Orleans | 246 | 618,010 | 100 | 898,479 | .. | 32 |
| Shreveport | 256 | 357,705 | 160 | 154,190 | 131 | .. |
| **Maine—** | | | | | | |
| Portland | 76 | 131,793 | 43 | 31,885 | 313 | .. |
| **Maryland—** | | | | | | |
| Baltimore | 1,272 | 1,790,280 | 441 | 1,925,260 | .. | 8 |
| Cumberland | 27 | 41,408 | 32 | 40,390 | 2 | .. |
| **Massachusetts—** | | | | | | |
| Beverly | 26 | 17,430 | 21 | 28,190 | .. | 39 |
| Boston | 633 | 2,074,983 | 506 | 1,672,890 | 124 | .. |
| Brockton | 78 | 350,150 | 55 | 49,638 | 605 | .. |
| Cambridge | 90 | 226,000 | 87 | 215,370 | 4 | .. |
| Chelsea | 25 | 59,960 | 23 | 58,970 | 1 | . |
| Chicopee | 25 | 72,475 | 20 | 46,950 | 54 | .. |
| Fall River | 57 | 115,841 | 40 | 187,550 | .. | 39 |
| Fitchburg | 36 | 57,071 | 16 | 43,175 | 32 | .. |
| Haverhill | 29 | 59,025 | 15 | 28,525 | 106 | .. |
| Holyoke | 37 | 96,500 | 20 | 62,500 | 54 | .. |
| Lowell | 81 | 134,295 | 60 | 56,905 | 135 | .. |
| Lawrence | 47 | 227,980 | 28 | 44,935 | 407 | .. |
| Lynn | 37 | 84,285 | 36 | 222,125 | .. | 67 |
| Medford | 38 | 138,600 | 22 | 379,800 | .. | 64 |
| New Bedford | 82 | 377,684 | 33 | 243,625 | 54 | .. |
| North Adams | 9 | 12,210 | 6 | 10,250 | 19 | .. |
| Quincy | 83 | 193,395 | 44 | 72,010 | 168 | .. |
| Salem | 57 | 31,464 | 68 | 32,077 | .. | 3 |
| Somerville | 50 | 162,905 | 18 | 22,855 | 612 | .. |
| Springfield | 139 | 438,430 | 74 | 302,360 | 45 | .. |
| Waltham | 40 | 88,700 | 16 | 11,600 | 664 | .. |
| Worcester | 137 | 586,641 | 132 | 366,210 | 60 | .. |
| **Michigan—** | | | | | | |
| Battle Creek | 64 | 89,915 | 36 | 18,980 | 362 | .. |
| Bay City | 98 | 29,742 | 45 | 99,450 | .. | 71 |
| Detroit | 1,112 | 4,041,510 | 942 | 2,996,020 | 34 | .. |
| Flint | 154 | 91,755 | 163 | 106,790 | .. | 15 |
| Grand Rapids | 211 | 421,010 | 121 | 444,396 | .. | 6 |
| Jackson | 30 | 77,895 | 44 | 24,268 | 220 | .. |
| Kalamazoo | 62 | 58,868 | 42 | 108,554 | .. | 46 |
| Lansing | 105 | 166,840 | 77 | 323,000 | .. | 49 |
| Saginaw | 101 | 917,328 | 86 | 144,793 | 526 | .. |
| **Minnesota—** | | | | | | |
| Duluth | 135 | 488,634 | 73 | 140,760 | 247 | .. |
| Minneapolis | 533 | 1,457,900 | 345 | 828,715 | 75 | .. |
| St. Paul | 315 | 842,385 | 158 | 810,675 | 3 | .. |
| **Mississippi—** | | | | | | |
| Jackson | 79 | 66,000 | 53 | 16,000 | 312 | .. |
| **Missouri—** | | | | | | |
| Kansas City | 371 | 1,193,650 | 192 | 883,700 | 35 | .. |
| Springfield | 44 | 59,400 | 32 | 24,575 | 141 | .. |
| St. Joseph | 59 | 84,291 | 105 | 192,903 | .. | 57 |
| St. Louis | 781 | 975,125 | 574 | 523,730 | 86 | .. |
| **Montana—** | | | | | | |
| Butte | 3 | 185 | 16 | 4,635 | .. | 97 |
| **Nebraska—** | | | | | | |
| Lincoln | 61 | 73,316 | 20 | 35,560 | 106 | .. |
| Omaha | 113 | 498,215 | 51 | 314,035 | 58 | .. |
| **New Hampshire—** | | | | | | |
| Manchester | 71 | 78,832 | 40 | 33,435 | 135 | .. |
| **New Jersey—** | | | | | | |
| Bayonne | 31 | 216,600 | 18 | 92,950 | 133 | .. |
| Camden | 59 | 104,925 | 76 | 89,723 | 16 | .. |
| East Orange | 80 | 706,371 | 49 | 57,256 | 23 | .. |
| Elizabeth | 61 | 185,354 | 31 | 138,865 | 33 | .. |
| Hoboken | 21 | 36,025 | 15 | 17,350 | 107 | .. |
| Newark | 301 | 1,556,749 | 217 | 630,748 | 146 | .. |
| Orange | 49 | 128,030 | 34 | 32,623 | 292 | .. |
| Passaic | 43 | 812,850 | 18 | 91,300 | 790 | .. |
| Paterson | 154 | 379,048 | 96 | 77,425 | 389 | .. |
| Plainfield | 31 | 72,556 | 16 | 47,713 | 52 | .. |
| **New Mexico—** | | | | | | |
| Albuquerque | 34 | 98,045 | 20 | 32,661 | 200 | .. |
| **New York—** | | | | | | |
| Albany | 208 | 531,218 | 132 | 65,530 | 710 | .. |
| Auburn | 12 | 9,451 | 12 | 14,645 | .. | 36 |
| Binghamton | 288 | 284,288 | 198 | 78,178 | 263 | .. |
| Buffalo | 456 | 943,000 | 308 | 1,040,000 | .. | 10 |
| Mt. Vernon | 54 | 525,850 | 20 | 31,575 | 1565 | .. |
| New York City: | | | | | | |
| Boro Manhattan | 350 | 7,885,818 | 270 | 6,540,175 | 20 | .. |
| Boro Richmond | 261 | 1,251,718 | 103 | 292,832 | 328 | .. |
| Boro Brooklyn | 1,416 | 12,812,138 | 886 | 3,804,560 | 236 | .. |
| Boro Queens | 2,012 | 9,052,238 | 722 | 1,368,996 | 561 | .. |
| Boro Bronx | 778 | 12,014,622 | 339 | 1,005,467 | 1094 | .. |
| Niagara Falls | 40 | 49,175 | 40 | 155,213 | .. | 69 |
| Rochester | 367 | 2,080,495 | 228 | 404,997 | 413 | .. |
| Schenectady | 36 | 62,630 | 40 | 566,975 | .. | 89 |
| Syracuse | 168 | 465,298 | 151 | 261,520 | 70 | .. |
| Troy | 19 | 49,062 | 22 | 10,840 | 352 | .. |
| Utica | 69 | 258,475 | 40 | 139,400 | 85 | .. |
| Yonkers | 68 | 346,500 | 49 | 271,000 | 27 | .. |
| **North Carolina—** | | | | | | |
| Charlotte | 32 | 138,931 | 13 | 47,070 | 195 | .. |
| Wilmington | 19 | 84,200 | 19 | 76,100 | 10 | .. |
| **North Dakota—** | | | | | | |
| Fargo | 19 | 97,875 | 18 | 42,700 | 129 | .. |
| Grand Forks | 4 | 11,450 | 4 | 9,200 | 24 | .. |
| **Ohio—** | | | | | | |
| Akron | 121 | 88,295 | 174 | 268,661 | .. | 68 |
| Canton | 128 | 227,912 | 125 | 900,415 | .. | 75 |
| Cincinnati | 1,121 | 945,195 | 931 | 733,560 | 28 | .. |
| Cleveland | 832 | 2,750,580 | 837 | 2,402,100 | 14 | .. |
| Columbus | 331 | 626,915 | 202 | 303,445 | 106 | .. |
| Dayton | 146 | 295,264 | 111 | 390,371 | .. | 25 |
| Hamilton | 21 | 120,278 | 14 | 15,960 | 653 | .. |
| Mansfield | 29 | 39,675 | 19 | 22,965 | 72 | .. |
| Sandusky | 28 | 25,275 | 12 | 18,492 | 36 | .. |
| Springfield | 44 | 47,650 | 38 | 55,640 | .. | 15 |
| Toledo | 218 | 1,172,099 | 229 | 323,505 | 262 | .. |
| Youngstown | 86 | 261,765 | 93 | 196,190 | 33 | .. |
| Zanesville | 13 | 33,490 | 9 | 4,356 | 668 | .. |
| **Oklahoma—** | | | | | | |
| Muskogee | 29 | 96,872 | 6 | 9,325 | 938 | .. |
| Oklahoma City | 246 | 704,985 | 123 | 421,440 | 67 | .. |
| Tulsa | 146 | 1,055,750 | 129 | 510,340 | 106 | .. |
| Okmulgee | 36 | 107,150 | 47 | 238,400 | .. | 56 |
| **Oregon—** | | | | | | |
| Portland | 1,082 | 1,374,615 | 751 | 590,480 | 132 | .. |

| | November, 1921 | | November, 1920 | | | |
|---|---|---|---|---|---|---|
| | No. of permits. | Estimated cost. | No. of permits. | Estimated cost. | Per cent. Gain. | Loss. |
| **Pennsylvania—** | | | | | | |
| Allentown .... | 37 | 73,575 | 32 | 92,175 | .. | 21 |
| Altoona ..... | 71 | 38,197 | 77 | 31,846 | 19 | .. |
| Bethlehem .... | 20 | 59,675 | 11 | 82,675 | .. | 28 |
| Easton ..... | 25 | 91,615 | 10 | 4,185 | 2089 | .. |
| Erie ..... | 113 | 278,121 | 77 | 234,225 | 14 | .. |
| Harrisburg ... | 35 | 317,178 | 22 | 48,525 | 553 | .. |
| Johnstown .... | 44 | 792,000 | 41 | 395,000 | 100 | .. |
| Lancaster .... | 19 | 76,605 | 19 | 28,375 | 169 | .. |
| Philadelphia .. | 1,198 | 5,746,695 | 847 | 2,303,445 | 149 | .. |
| Pittsburgh .... | 382 | 2,983,676 | 194 | 869,169 | 243 | .. |
| Reading ..... | 41 | 112,425 | 34 | 28,300 | 297 | .. |
| Scranton ..... | 56 | 533,275 | 26 | 107,525 | 395 | .. |
| Wilkes-Barre . | 57 | 117,927 | 30 | 50,818 | 132 | .. |
| York ..... | 18 | 23,265 | 11 | 25,295 | .. | 9 |
| **Rhode Island—** | | | | | | |
| Central Falls . | 4 | 32,200 | 10 | 94,100 | .. | 67 |
| **South Carolina—** | | | | | | |
| Charleston .. | 45 | 91,595 | 44 | 178,850 | .. | 49 |
| **South Dakota—** | | | | | | |
| Sioux Falls ... | 17 | 35,575 | 12 | 94,200 | .. | 62 |
| **Tennessee—** | | | | | | |
| Chattanooga .. | 175 | 142,560 | 139 | 42,007 | 239 | .. |
| Knoxville .... | 137 | 207,462 | 57 | 112,312 | 84 | .. |
| Memphis ..... | 245 | 810,540 | 187 | 426,878 | 89 | .. |
| Nashville ..... | 256 | 124,241 | 242 | 94,069 | 32 | .. |
| **Texas—** | | | | | | |
| Austin ..... | 39 | 64,180 | 15 | 71,005 | .. | 10 |
| Dallas ..... | 410 | 1,393,313 | 156 | 545,661 | 155 | .. |
| El Paso ..... | 101 | 307,495 | 83 | 104,115 | 195 | .. |
| Fort Worth ... | 182 | 422,166 | 113 | 484,925 | .. | 13 |
| Galveston .... | 469 | 122,499 | 427 | 36,914 | 231 | .. |
| Houston ..... | 558 | 1,089,201 | 358 | 901,510 | 20 | .. |
| **Utah—** | | | | | | |
| Ogden ..... | 36 | 65,222 | 30 | 209,950 | .. | 69 |
| Salt Lake City. | 157 | 385,876 | 58 | 72,717 | 430 | .. |
| **Virginia—** | | | | | | |
| Norfolk ..... | 104 | 176,772 | 73 | 695,076 | .. | 75 |
| Portsmouth ... | 38 | 67,380 | 20 | 26,755 | 151 | .. |
| Richmond .... | 174 | 600,852 | 120 | 114,461 | 424 | .. |
| Roanoke ..... | 85 | 79,682 | 39 | 41,960 | 89 | .. |
| **Washington—** | | | | | | |
| Everett ..... | 95 | 28,830 | 148 | 32,649 | .. | 12 |
| Seattle ..... | 735 | 593,800 | 750 | 463,470 | 28 | .. |
| Spokane ..... | 183 | 118,205 | 98 | 40,885 | 164 | .. |
| Tacoma ..... | 263 | 180,542 | 238 | 105,039 | 71 | .. |
| **West Virginia—** | | | | | | |
| Charleston .... | 90 | 270,919 | 30 | 231,880 | 16 | .. |
| Huntington ... | 106 | 115,987 | 56 | 64,260 | 80 | .. |
| Wheeling ..... | 60 | 73,125 | 28 | 42,850 | 70 | .. |
| **Wisconsin—** | | | | | | |
| Kenosha ..... | 58 | 108,705 | 109 | 105,519 | 2 | .. |
| Madison ..... | 70 | 211,659 | 26 | 69,070 | 204 | .. |
| Milwaukee .... | 357 | 1,733,914 | 276 | 1,444,278 | 20 | .. |
| Oshkosh ..... | 56 | 42,875 | 23 | 43,939 | .. | 3 |
| Racine ..... | 44 | 67,599 | 27 | 61,000 | 10 | .. |
| Sheboygan ... | 125 | 100,763 | 57 | 34,881 | 188 | .. |
| **Wyoming—** | | | | | | |
| Cheyenne ..... | 17 | 19,300 | 12 | 13,750 | 40 | .. |
| Total ..... | 42,836 | $148,593,588 | 28,647 | $74,901,409 | 98 | .. |

## PERSONAL MENTION.

**C. P. Schultz** has been appointed buyer in the plumbing supply department of Manion & Co,. of New Orleans, La., succeeding J. A. Davis, who is devoting all his time to the company's heating and hotel supplies departments.

**George G. Shimpin** has been promoted from salesman to manager of the plumbing supply department of the Fairbanks Co., of New Orleans, La.

**E. E. Konzelman** has severed his connection with the plumbing supply department of the Fairbanks Co., New Orleans, La., and accepted the position of assistant to Joseph W. Cruebbe, manager of the plumbing supply department of the Standard Supply & Hardware Co., New Orleans, La.

**Walter Kiningham,** sales representative in central and southern Illinois for the Inland Supply Co., Danville, Ill., has been transferred to the Chicago office of the company to cover the Chicago territory. **Albert Hadley,** who handled the company's sales in Indiana, has been transferred to the territory vacated by Mr. Kiningham, and **K. J. Broeckert,** recently added to the sales force, will take charge of the territory from which Mr. Hadley was transferred.

**E. J. Healy,** whose likeness is shown herewith, has just been appointed sales representative in Iowa and Nebraska for the Sloan Valve Company, Chicago. He will make his headquarters in Des Moines, Ia. Mr. Healy was formerly connected for several years with Crane Company, Chicago, and later with the N. O. Nelson Manufacturing Co., St. Louis, Mo.

**James D. Erskine,** formerly manager of the eastern branch of the American Radiator Co., Buffalo, N. Y., has been made vice-president and sales manager of the Fitzgibbons Boiler Co., Inc., Oswego, N. Y., which has established a branch in New York with offices in the Bryant Arcade Building.

**J. W. Morton** has been appointed purchasing agent for the Plumbing & Heating Supply Co., of Nashville, Tenn. He was formerly connected with Laib Co., of Louisville, Ky., for three years, and later with the Nashville branch of the W. A. Case & Son Mfg. Co., of Buffalo, for five years.

## Twenty Years Ago in "Domestic Engineering"

**Saturday, December 21, 1901.**

**Covering Firms Consolidate.**—The H. W. Johns Manufacturing Company, of New York, and the Manville Covering Company, of Milwaukee, have consolidated their interests, the consolidation to take effect January 1. The new company, with a capital stock of $3,000,000, will be known as the H. W. Johns-Manville Co.

**The Mighty Hath Fallen.**—The John Simmons Company team, heretofore known as the unbeaten champions of the Plumbing and Steam Supply Bowling League of New York, were beaten on the night of December 16 by the Ronalds Johnson team. Somewhere the sun is shining, but not in Centre street, for the mighty hath fallen.

**Was Vaccinated.**—W. B. Hubbard, of W. B. Hubbard & Sons, Boston, has been laid up from the effects of vaccination.

**A Good Job.**—A. E. Touchet, one of Boston's hustling plumbers, will install the plumbing in the new seashore house of Dryer J. Allen of Beverly, Mass.—a nice winter's job amounting to about $10,000. There will be seven baths and toilets in the main residence and two complete baths in the stable.

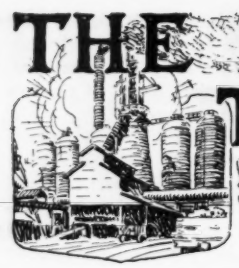
**Plumbing Ordinance.**—The city council of New Haven, Conn., has passed an ordinance licensing all plumbers. The fee is two dollars, a part of which is to pay for a badge.

**Takes a Life Partner.**—William McCoach, Jr., the prosperous and progressive plumber of Philadelphia, was united to Miss Eliza Russell Congdon December 18. They are now on a wedding trip, which will include a stop at the exposition at Charleston, South Carolina.

**A Change.**—Hunnicutt & Bellingrath Co., the oldest plumbing and heating concern in Atlanta, Ga., has sold out to M. C. Vanduser and retired from business.

**In the Interest of Building.**—An organization known as "The Builders' League" has been formed in St. Louis for the purpose of dealing with strikes of workmen on building contracts.

# THE METAL MARKET AND TRADE REPORTS



### Steel and Iron.

Dullness characterizes the steel trade as the year draws to a close, and some of the smaller mills will close down entirely over the holidays, not only because of lack of orders, but also to enable inventories to be taken more readily and the year's business closed and accounted.

Structural material figured more or less prominently last week. Many building plans perfected during the fall months have reached the point which calls for the placing of the steel specifications involved. The demand for shapes, angles, reinforcing bars and such like material has been very heavy in the aggregate and has come from widely separated sections of the country. The main support of the market, however, has come from the East. Most of the orders have been for comparatively small tonnages, but the total is of fair proportions and is better than had been generally expected.

It is admitted that structural work has been taken at prices which are only profitable in that they have served to provide sufficient work for fabricating plants to prevent their going idle. It is noticeable, too, that the leading steel interest has not taken its due proportion of the business, the bulk of which has fallen to independent fabricators.

Between now and the end of the year it is expected that the railroads will place extensive orders for rails for 1922 delivery. Already a substantial tonnage has been booked, but many of the smaller roads have not yet completed their specifications. The rail price, it will be remembered, has been fixed at $40 per ton for 1922, operative to March 1.

Formal reduction in steel pipe was by far the dominant factor in the steel trade in Pittsburgh markets. The reduction was anticipated, but on a more drastic basis. Many consumers had been looking for a ten-point reduction, instead of five, after the first of the year. The new base of 7.1 per cent discount on black pipe places this product near normal, and with good buying continuing as it has, aided by improved demand for oil products, much line and black pipe buying is predicted early in the new year.

The wrought iron pipe makers are expected to announce a similar proportionate reduction shortly, this being done individually, as there is no organization or association of iron pipe makers to guide such moves.

The pig iron situation is generally encouraging and in marked contrast to the dullness in November. During the past week there has been considerable activity in the Eastern district, in Northern New York and in the Central West, which does not appear, however, to have been shared in the South. Manufacturers of heating apparatus have been the leading buyers.

The major portion of the iron booked has been for first quarter delivery, but there continues to be a fair sprinkling of prompt delivery business in small lots. This comes in spite of the reluctance of the consumers to add to their inventories at the close of the year. It is a good indication of the bare state of the market.

From Chicago a good demand is reported for the higher grade irons, including foundry malleable, low phosphorus, charcoal and standard Bessemer, as also for ferro-alloys.

Furnace stocks are light, and if only a fair proportion of the business had called for immediate delivery there would have been much difficulty in meeting the demand, and prices would likely have advanced. But the great bulk of the deliveries are for January-March and the prices have weakened on competitive bidding. Eastern Pennsylvania iron is still quoted on the basis of No. 2 plain iron at $19.50 to $20 and Buffalo at from $19 to $19.50, though for small lots for immediate shipment the furnaces ask an additional 50 cents to $1 per ton. There is a good demand for future coke, in keeping with iron, but the spot situation is weak with much scattered material pressing for sale. Furnace grades at Connellsville are quoted at $2.75 to $3 for prompt and $3.10 to $3.40 for contract. Foundry coke for spot ranges between $3.50 to $4.25, and contracts from $4 to $5 as to grade. Prices for pig iron are quoted as follows:

| | |
|---|---|
| No. 2 Pittsburgh | $22.46@$22.96 |
| No. 2X Philadelphia | 22.26@ 22.76 |
| No. 2 Southern Birmingham | 17.50@ 18.00 |
| No. 2 Chicago | 20.00@ 21.00 |
| Basic valley, furnace | 19.00@ 19.50 |
| Bessemer, Pittsburgh | 21.96@ 22.46 |

### Copper.

Last week closed with copper more or less neglected by the consumer and easier in tone. Not only has the upward movement been checked but the price shows a tendency to sag a little for want of buying support. The producers, however, are not accepting the situation without resistance, and some of them absolutely decline to meet the competition. This, however, does not obviate the fact that copper is relatively weak at the moment, though it might not take much to create a reaction. The light demand, current during the past few days, has been confined to December delivery, so far as can be learned, which has been selling at the open quotation of 13¾ cents.

As a whole the producers view the situation with complacency. They cannot hope for continuous activity, and they are not pressing sales at the low prices but are willing to wait for the next buying wave to turn the tide. There is reason in this belief because of the statistical position which grows stronger each month. Exports from New York during December so far have been 13,588 tons.

### Tin.

There was but little interest shown in the tin market at the close of the week, and the market remained as quoted on Friday, with sellers of Straits at 33¾ cents to 33⅞ cents and of futures at from 33½ cents to 33¾ cents as to position. Arrivals during December have been 2,200 tons at Atlantic and 100 tons at Pacific ports. Tin afloat is estimated at 4,565 tons.

### Zinc.

Consumers are taking no better than a light interest in zinc, but the market appears to be well controlled and steady at the current quotation of 4.85 cents East St. Louis. The Metal Exchange quotes New York delivery at 5.20 cents.

### Lead.

Demand for lead is quiet in keeping with the season and the market presents no unusual features. There is no pressure to sell and producers are holding steady to old current quotations. For New York delivery they ask 4.70 cents for Missouri and 4.80 cents for desilverized lead. Missouri

brand, East St. Louis, is still quoted at between 4.40 cents and 4.45 cents.

**Other Metals.**

Quotations on other metals in New York are as follows:

**Aluminum Powder .....60 to 65 cents per lb.**
**Aluminum (in 50-ton lots) 99% and purer..25 cents per lb.**
**Antimony (Chinese and Japanese).....4.55 cents per lb.**

**New York Old Metal Market.**

The following prices are current for old metals:

| | Buying | Selling |
|---|---|---|
| Copper, heavy | 10⅞ to 11⅛ cents | 11⅞ cents |
| Copper, light | 8⅝ to 8⅞ cents | 9⅞ cents |
| Brass, heavy | 5¼ to 5½ cents | 6¼ cents |
| Lead, heavy | 3⅞ to 4 cents | 4¼ cents |
| Lead, heavy | 3⅞ to 4⅛ cents | 4½ cents |
| Crucible copper | 11¼ to 11½ cents | 12¼ cents |
| Zinc | 2½ to 2½ cents | 3 cents |

**Chicago Old Metal Market.**

Chicago wholesale dealers' prices are nominally as follows:

| | Buying | Selling |
|---|---|---|
| Heavy yellow brass | 5 to 5¼ cents | 6¼ cents |
| Brass, light | 4 to 4½ cents | 5½ cents |
| Red brass | 8 to 8½ cents | 9 cents |
| Copper, heavy | 9½ to 10 cents | 10½ cents |
| Copper, light | 7 to 7½ cents | 8½ cents |
| Lead, heavy | 3½ to 3¾ cents | 4 cents |
| Zinc, | 2½ to 2¾ cents | 3¾ cents |

**In the New York Supply Market.**

Reductions of from ten to fifteen per cent in enameled ware and other lines of bathroom equipment are announced this week by many of the leading supply houses and the others will probably be in line by the time this report appears in print. Most of the reductions are on a ten per cent basis but some houses are featuring a fifteen per cent cut in such lines as double sinks.

Wrought iron and steel pipe are also down six per cent this week, but no change in soil pipe is reported. This is the surprising element in the situation, as with the manufacturers overstocked and demand away down, it was expected that in the event of any price declines the first line to be cut would be soil pipe. At the moment this report is being written, however, nothing in this direction has transpired.

Brass and brass manufactured goods have received their share of attention this week, the former advancing one-half cent per pound and the manufactured lines being left as they were only after serious consideration on the part of the manufacturers. With brass piping, for instance, down to 18½ cents officially and unofficially as low as 14 cents, having retrograded all the way from a war-time price of as high as 45 cents, a slight upward move would not have caused any surprise, especially as the present figure is away below the pre-war level, which was round 25 cents.

Brass appears to have been the "goat" of the plumbers' supply market all along. Vast stocks were sold at sacrifice prices from the Government's war stores, and the congestion caused in this way was intensified by the fact that many houses after the war found themselves in a position where they had to realize at almost any figure to secure funds for other needs.

The recent activity in the heating equipment supply market has now about run its course but some manufacturers are reported to be continuing their overtime schedules for the present in order not to be caught again as they were by the demand of the past month.

General relief is expressed at the decision of the building trades to carry the present wage agreement forward another two months. This at any rate postpones a strike into which the plumbers would inevitably have been drawn, causing a general tie-up throughout the supply market.

A strike in the building and allied trades would, it is stated, be nothing short of a calamity. Construction work in New York City during 1921 is likely to exceed the record-breaking figures for 1920 by at least $20,000,000, the aggregate in each case being away beyond the $2,000,000,000 mark. Local plumbing supply houses, hopeful that anything in the way of a strike will be avoided, base a good deal of optimism on these figures, especially as they are assured that further new records will be set in 1922. Inventory season dullness, lack of demand, and price declines are relatively unimportant, according to prominent supply men seen by the representatives of "Domestic Engineering," compared to the promise foreshadowed for 1922.

"I feel confident that we are on the eve of the most prosperous five years we've ever had," said John A. Murray, of John A. Murray & Sons. "Jobbers have their war-time stocks fully liquidated, and, with prices standing at new low levels all round, the decks are cleared for action; and that action is abundantly shadowed forth by the activity of the building trade promised for the 1922 season. Personally, I feel nothing but optimism regarding the outlook."

"No change in the situation," said M. George Burford, of the McMann & Taylor Co. "Very shortly the inventory season will be over, and then, with a new level of prices and plenty of building activity promised, we all hope to do some really worth-while business. So far as our firm is concerned, we've been quite active for the dull season."

"Prices are adjusting themselves," said Henry Beals, of the Biddle Purchasing Co. "The only wonder we feel is concerning brass, which is away down already, and on which an advance is inevitable, sooner or later, I suppose."

"Beyond the 6 per cent drop in wrought iron and steel pipe," said Raymond Smith, of the John Simmons Co., "there's nothing new this week except the excellent building trade reports we keep getting. With the turn of the year or a little later, we hope to see more activity all round in the pipe market."

"We've announced a 10 and 15 per cent reduction in all lines of sanitary ware, bathroom equipment, and so on," said the representative of the U. S. Sanitary Manufacturing Co., "and now we're hoping to get enough increased business to make it up. Personally, we've found the demand quite good. Shipments are coming through all round, and altogether, there's nothing to worry about in the situation, as we see it."

**Merchant Steel Pipe Reduced $5 Per Ton.**

Chicago, December 21.—One large manufacturer of merchant steel pipe in the Pittsburgh district this week announced a reduction of 2½ points on the prices of that product. The reduction amounts to approximately $5.00 per ton, and affects all sizes except 1-8th inch. It is expected other companies will soon meet the reduction.

Pipe business in the Chicago district is reported to be fairly good for this time of the year. Many inquiries are being received, and one large manufacturer reports this year's tonnage to be in execess of last year's, and this month's tonnage considerably larger than for the past two or three months.

Aside from the reduction noted last week, there have been no further changes in the price of plumbing material. Heating equipment also remains unchanged. Jobbers are a little lax in buying heating equipment at the present time due to the fact that they expect price changes early next year.

**Plan Important Consolidation in Brass Industry.**

Negotiations are now being completed for the consolidation of the American Brass Co., Waterbury, Conn., and the Anaconda Copper Mining Co. At a meeting held in New York last week representatives of nearly 40 per cent of the outstanding stock of the American Brass Co. unanimously approved of the plan under consideration by the Boards of Directors of the two companies, and agreed to deposit their stock subject to the working out of the details.

# AMONG THE PLUMBING AND HEATING CONTRACTORS

## Illinois

**Chicago and Vicinity.**

Building permits issued during the first fifteen working days of this month numbered 380, with a total valuation of $7,532,550. During the first three days of the month a total of 76 permits, valued at $1,503,200, were issued. Permits numbering 155, having a valuation of $3,661,150, were issued during the first full week, or the week ending December 10th. This was the largest number of permits and the largest total valuation for any week so far this month During the third week, or the week ending December 17th, 149 permits were issued. These were valued at $2,368,200. Although the falling off in valuation during the past two weeks has been more than a million dollars, there are no black clouds hiding the silver of optimism prevailing in the building industry generally. Contractors look forward to a good deal of building during the coming months especially if the weather continues mild.

Several permits for costly structures were issued last week. Among them are a $250,000 school building, a $400,000 theatre, a $128,000 flat building, a $105,000 store building, and a $60,000 flat building.

There are also a number of large projects being planned by architects. These include the proposed Ambassador apartment hotel, a $300,000 structure, to be erected in Joliet, Ill. Architect B. J. Burns, 1549 Belmont Avenue, is preparing plans for this building, which will be nine stories and will accommodate 72 families. Another apartment building is being planned by Architect John A. Nyden, 190 North State Street. This will be a $250,000 structure. It will be erected at the northeast corner of Brompton and Pine Grove avenues, and will house 60 families. A $200,000 apartment building containing 42 two and three-room apartments, to be erected at the southeast corner of Winthrop and Greenlake avenues, is also being planned by the same architect.

Architect A. S. Alschuler, 28 East Jackson Boulevard, is preparing plans for a $2,000,000 office and store building to be erected at Michigan Avenue, River and Plaza Streets for John S. Miller.

Plans for the construction of a $1,500,000 seven story hotel and store building in Evanston, Ill., are being prepared by Architect William C. Jones, 19 South LaSalle Street.

The United Plumbing & Heating Co., 3012 West Roosevelt Road, and Simon Kerman, 1332 South Sangamon Street, have the heating and plumbing contracts, respectively, on the five apartment buildings to be erected on Adams Street between Springfield and Avers Avenues. Each structure will be three stories with housing facilities for six families.

Schampel & Dougherty, 173 West Washington Street, have the heating contracts on the $250,000 apartment building to be erected at the corner of Kenilworth and Glenwood Avenues, the $200,000 apartment building being erected at 7060 North Ashland Avenue, and the $60,000 apartment building under construction on Lawndale Avenue near Lawrence Avenue.

Noble & Thumm, 2313 Lincoln Avenue, have secured the contract to install heating in the $250,000 apartment building to be erected at the corner of Kenilworth and Glenwood Avenues, and the plumbing and heating in the $40,000 public garage building under construction at 4722-4730 Kimball Avenue.

W. D. Morant, 1743 Arthur Avenue, has been awarded the contract to install plumbing in the $200,000 apartment building to be erected at 7060 North Ashland Avenue. The structure will be three stories, 125x135 ft., and will house 24 families.

The Illinois Heating & Ventilating Co., 1649 North Wells Street, has the heating contract on the $60,000 apartment building to be erected at 4841 North Talman Avenue. The building will be three stories, 75x115 ft., and accommodate 12 families.

Riordan Brothers, 3644 Ogden Avenue, are to install the plumbing system in the $60,000 three-story apartment under construction for J. Lewis on Lawndale Avenue near Lawrence Avenue.

The Roberts Plumbing Co., 4544 North Western Avenue, has the contracts to install plumbing systems in a $25,000 apartment building and the three-car garage to be erected at 4414 North Maplewood Avenue, the $25,000 three-story apartment building and garage under construction at 4601 North Central Park Avenue, and the one-story store building to be erected at Roosevelt Road and Lombard Avenue, Oak Park, Ill.

H. C. Sievers, 5742 West Chicago Avenue, will install plumbing in two $15,000 apartment buildings to be erected at 140-142 South Austin Avenue, Oak Park.

Hulbert & Dorsey, 208 North Wells Street, and Kehm Bros., 13 West Kinzie Street, will install the plumbing and heating, respectively, in the $50,000 private garage building which is to be erected at 215-219 West Erie Street, without delay.

Peter Rech, 2901 Belmont Avenue, has the plumbing contract on a one-story store building to be erected at Belmont Avenue, near Francisco Street.

L. & C. Juergens, 2831 West Madison Street, have the contract to install plumbing in the $25,000, one-story public garage building to be erected at 2820-2822 West Monroe Street.

D. E. Kinsella, 7309 Vincennes Avenue, will install the plumbing system in a one-story public garage building to be erected at 3832-3837 South Union Avenue.

The E. Baggot Co., 55 East Lake Street, and the Phillips-Getschow Co., 130 West Kinzie Street, will install the plumbing and heating, respectively, in the $100,000 residence to be erected in Glencoe, Ill., for J. L. Strauss. The building will be two stories, 115x76 ft.

C. S. Wallace, 1621 Orrington Avenue, Evanston, will install plumbing in three $8,000 residences to be erected at 284, 290 and 296 Forest Avenue, Winnetka.

E. M. Halverson, 918 West Fifty-ninth Street, has the plumbing contract on several $6,000 residences to be erected at 7700-7728 Eberhardt Avenue.

George A. Henrich, 5650 Broadway, has been awarded the contract to install heating in a store building being erected at Twenty-second Street and Lombard Avenue, Berwyn. The building will measure 104x125 ft., and will contain ten stores.

# Pennsylvania

### Scranton and Vicinity.

Real estate men report many sales of residential properties in various parts of the city. There is a tendency on the part of people who occupy apartments on leases to desire to own their homes. The demand for desirable locations has been brisk and this situation is acting with stimulating effect on building projects.

Building authorities in almost every city in the United States confidently expect 1922 to make a high record for activities. There will be those of course, who will wait until the parade is passing before they prepare to march, but the prudent contractor, the material and supply house man who is awake to the situation, the building investor who has vision will begin now to get his organization in working order, he will get projects as far along as possible during the winter; he will try to assemble a construction organization of merit and to work it during the winter as much as possible so that it may be running smoothly when the rush comes.

It is reasonable to expect that railroad rates may be slightly lower and financial conditions will be improved by spring so work may be prosecuted under conditions more favorable than they have been in five years. Construction has been delayed, and in this section statistics show that building of homes is from two to three years behind.

It is nearly the time of the year when inventories are taken and the books are balanced, to find out the results for the past year. Up to the present time the craft has been very active, and is looking forward to a boom in the building line with the beginning of the new year.

**Plumbing and Heating Contractor Stephen A. Koreny, of Scranton, Pa.**

Stephen A. Koreny, who operates a plumbing and heating business at the corner of Adams and Larch Streets was found by a "Domestic Engineering" representative in his automobile about lunch time. All he had time to say was "Yes, I read everything in the 'Domestic Engineering' and find a lot of good stuff for the plumbing and heating contractor. Good bye, now for dinner." Mr. Koreny is very busy installing plumbing in a number of buildings and doing a nice jobbing business.

Clark & Lynott, Rookery Building, are installing the plumbing in the $35,000 home of Edward Besack on Electric Avenue.

H. N. Gardner & Sons, 920 Greenridge Street, are completing the plumbing in the new Dime Bank Building on Wyoming Avenue.

The James Buterly Co., Union National Bank Building, has been awarded the contract for the plumbing and heating in ten single houses and in the five-family apartment for the Hill Crest Company to be erected on Hill Top.

The P. F. and M. T. Howley Co., Wyoming Avenue, has completed the plumbing and heating in the $150,000 Miles Theatre on Penn Avenue and is installing the plumbing in the $500,000 office building of the Scranton Gas & Water Company.

Joseph F. O'Hara, 1400 North Washington Avenue, has been awarded the contract for installing the plumbing and heating in the new $125,000 office building of the Scranton Lace Company on Glenn Street.

Albert Ruth, South Irving Avenue, has the contract for the plumbing and heating in the residences of D. C. Woodworth at 2121 Adams Avenue, Benjamin Snyder, 891 Warren Street, and George Sylvester, 1649 Quincy Avenue.

The H. A. Rievinberg Co., Linden Street, has the plumbing and heating contract on the residence of Charles Spicher to be erected at 537 Harrison Avenue.

Gunster Bros., 325 Penn Avenue, have the contract for installing the plumbing in a $3,000 bathroom for A. B. Warman on Clay Avenue.

H. N. Gardner & Sons, 920 Greenridge Street has just completed the plumbing in the new $250,000 State Theatre on Wyoming Avenue.

J. P. Buterly, Union National Bank Building, has the plumbing and heating in the Olvar Apartments on Madison Avenue.

# Indiana

### Indianapolis.

Master plumbers of Indianapolis, at their regular monthly get-to-gether meeting at the Buschmann hall, Eleventh Street and College Avenue, on Monday night, urged the members of the new city council not to take any action toward the repealing of the new city ordinance prohibiting open vaults when they take office. Seven members of the incoming council, two members of the new board of health and a number of representative business men attended the meeting and took part in the discussions.

Albert Stump, an Indianapolis attorney, who was the principal speaker of the evening, stressed the importance of protecting the health of the people of Indianapolis by proper sewage disposal. "Every consideration of the welfare of Indianapolis should compel the city to see that the sewage is properly disposed of," he said. "The interests of the poor especially demand it. A survey of the typhoid cases in the city shows that eighty-five cases out of every 100 occur in homes that have outside vaults. There are in this city vaults within less than 10 ft. of open wells which supply the water for families occupying the properties." Mr. Stump also pointed out the advantages of the vault ordinance and spoke of the plans that have been suggested to accomplish the objects of the ordinance without burdening to a great extent the people who must comply with its provisions. He praised the plan devised by August Buschmann & Sons, Inc., which provides for deferred payments of the costs of installing the connections required by the new ordinance. This plan also was praised by the new council members and Dr. E. E. Hodgin and Dr. Goethe Link, members of the board of health. The council members present were Theodore J. Bernd, John E. King, Lloyd D. Claycombe, Heydon W. Buchanan, Ben H. Thompson, Ira L. Bramblett and Otto Ray. The latter, who is a contracting plumber, spoke on the ordinance from the standpoint of the plumbers. Other talks were made by Alfred W. Buschmann, Arthur Paetz, president of the Indianapolis Master Plumbers' Association, and Joseph G. Hayes, one of the city's leading

plumbing and heating contractors. The next meeting will be held January 23.

Bids on the remodeling of the plumbing and heating systems in the old shops and power house of the Arsenal Technical High School, Indianapolis, were received by the board of school commissioners this week. The firm of Hayes Bros., 236 West Vermont Street, bidding $6,201 on the heating, was the low bidder, and Charles Fiel's bid of $2,250 was the low offer on the plumbing. The bids were taken under advisement until the next regular meeting of the school commissioners.

**Vincennes.**

Victor C. Knauth, of the firm of V. C. Knauth Bros. & Co., of Vincennes, has given the people of Clay county the benefit of his knowledge on that subject by remodeling the heating plant for the courthouse and jail at Brazil. This plant had not proved satisfactory since its installation and the commissioners recently ordered it remodeled, awarding the contract to Mr. Knauth's firm.

## CLEVELAND AND VICINITY.

While the year 1921 will close with probably less construction having been negotiated than was done in 1920, there is no cause for alarm for what the new year will hold in this respect, at least as far as the heating and piping and plumbing industries are concerned. Steady gains in the last months of the year have shown that building progress is upward, with each week better than the week before. Though it would seem that the big construction, industrial, office and commercial buildings, had about reached its limit, and that there was enough ahead to keep all branches of the construction industry in good humor for months to come, still more of this character of building is about to be started. A $1,000,000 building on the site of the old Penton Building is contemplated. A commercial structure costing better than half that amount is planned for the Broadway-East 55th Street section. The Ninth Garage will add several stories to its original building, and turn it into a permanent industrial exposition building. This project will cost about $800,000. These are only a few of the recently projected developments.

**Building Gains in November.**

Actual building gains in November over the same month a year ago are $350,000. Most of this was in dwellings, and indications are that still greater increases can be expected. This is especially interesting to the smaller plumbing and heating contractors, who have been neglected for a long time and are at last about to come into their own once more. Of particular value in this connection, leaders in these and other branches of the building industry here believe, is the move by Senator J. J. Rowe, himself in the building supplies branch of the industry, to bring about a reduction in the amount of taxes to be paid by the home owner. In a resolution to be introduced in the present state legislature, Mr. Rowe will ask a reduction in the rate of taxation on the first $5,000 on dwellings used as residences by the owners. Of course the lower priced the dwellings, the greater the benefit, but a reduction on $5,000 worth of any residence would obtain by this resolution. The present rate of taxation is 18 mills. The proposal, tentatively, is for 14 mills. This plan comes as nearly as any yet devised in Ohio to the free tax ruling in New York state, designed to stimulate house building. In any event its acceptance by the legislature is bound to be beneficial to the building industry in the Buckeye state.

**The Sewer Test Question Settled.**

After months of dickering, the building code committee of council has at last made a decision on the sewer test controversy, and has incorporated in the code the feature desired by contractors and consumers alike—the so-called bucket test. In a word, this simply means that with the completion of the sewer a small amount of water may be poured into it, and if it shows the proper flow the sewer may be considered O. K. The chief advantage to the plumbing contractor is that the work can be done much more cheaply than when the pressure test was required.

**The American Building Exposition.**

Meanwhile the American Building Exposition will be a factor in increasing all construction in Northern Ohio. Plans for the exhibit of the Heating and Piping Contractors, Cleveland Association, are being completed. Postponement of the exposition dates to February 22 is considered by the members to be a benefit rather than a hindrance, as it brings the people, especially the prospective home builder, still closer to the time when building a new house is considered. There will be larger exhibits at the show than those by the heating and plumbing trades, but few more interesting. Nearly everybody here has come to recognize that the finest house means little if the heating plant is not good—and this section of the country supplies plenty of winter weather to prove this belief. Under the capable direction of Ed Maurer, of the Maurer Bros. Company; M. L. Crowell, of the Crowell & Smith Company; William Clarke, of the Becker-Seidel Company, and other leaders in the trade, a comprehensive group exhibit is planned, in which a score or more individual exhibits will be contained. Several boiler manufacturers also will take space along with this group exhibit. The show, as has been stated, will be held in the new Public Hall, which is expected to be sufficiently completed to house this mammoth exposition. There is reason to believe that the mechanical facilities will be sufficiently completed also to permit the practical demonstration of the different water and steam boilers in operation. If this part of the program can be carried out, the members believe that the demonstrations will go a long way toward convincing the prospective buyers. In the opinion of General Manager Ralph P. Stoddard, of the exposition company, at least 250,000 persons from all parts of the country, but mostly from Northern Ohio, may be expected to attend. The original Complete Building Show, held in 1916, brought 120,000 through the turnstiles—and that show was ever so much smaller than the exposition now being planned.

**Plumbing and Heating Contractors Attend Builders' Exchange Meeting.**

Members of the heating and plumbing trades who attended the last meeting of the Builders' Exchange were encouraged by the report brought here from the Pacific Coast by State Senator George W. Cartwright of California. Mr. Cartwright said that Los Angeles building development is surprising even to the natives, and is exceeded at present only by New York and Chicago, but at the same time is running well ahead of such cities as Cleveland and Detroit He asserted that not a little of this improvement is due to the work of the American Educational organization, of which Rev. Dr. Charles A. Eaton is president, and Mr. Cartwright vice-president. This organization seems to have done much to change the attitude of the relations between capital and labor and recognition, in part at least, of the law of compensation by both sides has resulted in benefit to all.

Eb Ellen, secretary of the Ohio Master Plumbers' Association, just back from Canton, where he conferred with the Canton local on plans for the coming state convention, advises that these plans are nearly complete, and will be ready for announcement in a few weeks. A large attendance at the convention is expected.

# New York

## NEW YORK CITY AND VICINITY.

Although the labor problems of the metropolitan plumbing and heating industry are still a long way from being solved, important developments of the past few days afford cause for optimism in that direction. In the first place, the general strike in the building trades which threatened to take place on the first of the year, when the present agreements expire, is likely to be postponed for at least sixty days as a result of recent action taken by the Board of Governors of the Building Trades Employers' Association. And, in the second place, recent activities of the Lockwood Housing Committee give promise of smoothing out some of the difficulties which plumbing and heating contractors, as well as other factors in the building construction industry have encountered because of the attitude of the unions in defining the conditions under which work can be done.

Until a few days ago a general strike in the building trades seemed inevitable, owing to the insistence of many of the employers on a cut of a dollar a day in wages. The latter argued that when a dollar a day was added to the wages of the workers in April, 1920, it was to offset the increased cost of living, and now that living costs were coming down there was no reason why the peak scale of wages should continue in effect after the expiration of the present agreements on December 31st. As previously reported in these columns some of the local master plumbers' associations were inclined to support this viewpoint, although it was realized that an effort to force concessions on the part of labor was likely to result in a strike. Now, however, it looks as though the clash, if it occurs at all, will be postponed for sixty days. For the Board of Governors of the Building Trades Employers' Association held a three hour session, this week, and at its conclusion Chairman Christian G. Norman announced that it had been voted to continue existing agreements with the unions until March 1, 1922, and then to submit the entire wage matter to arbitration.

The resolution passed by the Board of Governors says that any new agreements entered into after March 1st, 1922, will continue for the balance of the calendar year and that all such agreements shall be determined by an arbitration board of five members.

The resolution provides that this arbitration board shall serve without compensation, and that one member of said board be appointed by each of the respective presidents of the American Federation of Labor, the Chamber of Commerce of the State of New York, the Merchants' Association of the City of New York, and the New York Chapter of the American Institute of Architects. The remaining member is to be appointed by the Governor of the State of New York.

It is particularly worthy of note that the employers' organization in drawing up this plan has demanded no direct representation on the board of arbitrators, while labor can make its selection through Samuel Gompers, president of the American Federation of Labor. For this reason it is hoped that the unions will accede to the plan. The proposition, however, has still to be voted on by the Building Trades Council, representing the workers, so that, although the prospects are promising, the outcome, at the time this is written, is uncertain.

Samuel Untermyer, chief counsel of the Lockwood Committee, who is credited with being the originator of the plan, has expressed himself as being much pleased with the action taken by the employers. "It looks like a step in the right direction," he declared. "It will give us an opportunity to work out the plans the Lockwood Committee now has under consideration for improving the efficiency of labor. If the abuses in the unions that have been exposed by our investigation can be eliminated, as I believe they will be, by arrangements with the unions in negotiations we now have under way, employers may find that they can well afford to continue the present wage scale."

It is known that what is virtually an ultimatum has been issued by Mr. Untermyer to labor unions in the building trades, to the effect that certain practices must be eliminated from their dealings with employers and contractors, if they wish to avoid prosecution which would have behind it the full influence of the Lockwood Committee. The unions have been given until January 1st to abolish these practices.

# Massachusetts

### Boston.

At the meeting of the Boston Master Plumbers' Association at their rooms, 6 Beacon Street, last Tuesday, the date for the annual meeting was set for January 10. The annual meeting will be held at the United States Hotel, and President P. W. Donoghue will preside. Efforts to have President Donoghue at the head of the organization for another term have been unavailing, and he has definitely decided to retire so that the meeting will have to elect a new president. The past year has been one of the most active as well as most difficult for any presiding officer of the organization in its history. It is the custom of the association to make a suitable gift to the retiring president in recognition of his services. As a committee to arrange for the gift to retiring President Donoghue, James A. Cotter, of the W. G. Connell Co., ex-National President David Craig and Edward C. Kelley have been named.

The date of the annual meeting of the Heating & Piping Contractors' Boston Association, Inc., was decided upon at the meeting Tuesday evening. It will take place January 10. Other plans for the meeting are now in preparation. The association is preparing for an active season for 1922 with a large amount of public and institutional construction in prospect.

Jerome E. Lynch, senior member of the firm of Lynch & Woodward, heating and ventilating contractors on Atlantic Avenue, has the sympathy of his host of friends in the death of his wife, Mrs. Katherine F. Lynch, who passed away Dec. 11 at the Corey Hill hospital, Brookline, Mass., following an operation.

James A. Kent, of 92 Amherst Street, Roslindale, has opened a plumbing shop under the firm name of The Belgrade Plumbing Co., at 49 Charles Street.

Bolles & Dwyer, Inc., 80 Boylston Street, will have charge of the heating, ventilating and plumbing to be installed in the new court house at Morton Street and Arborway, Forest Hills district. The building will be 80x160, one story and basement, and will cost $265,000.

Contracts for remodeling a large block at Maverick Square, East Boston district, have been awarded. The heating and plumbing contracts have been awarded the Furlong-Whittemore Co., 237 Broadway, Boston. The work will entail an expenditure of nearly $50,000.

The New England Telephone & Telegraph Co., 114 Milk Street, has had plans prepared and will shortly award contracts for a new telephone exchange at 29-43 Belvidere Street, to cost in excess of $200,000. The company's engineers will have charge of construction and will let all contracts separately.

D. A. Carr, 46 Leverett Street, Boston, has been awarded the plumbing contract on the new surgical ward at the Symmes Arlington Hospital at Arlington.

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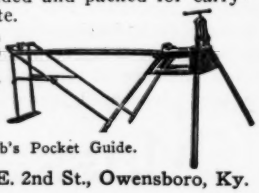

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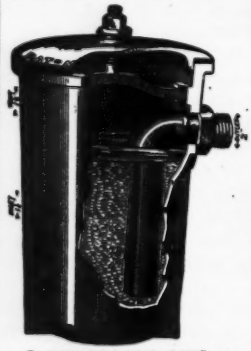

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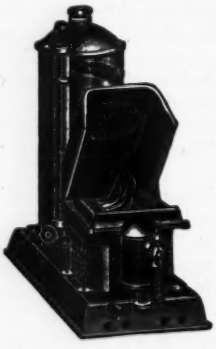

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# Missouri

**A Missouri Ruling of Special Interest to Home Builders.**

An important ruling of interest to the public, and to builders in particular, has just been announced by Attorney General Barrett, of Missouri, upon a question submitted to the state banking department by the Advertising Protective Bureau of Kansas City.

The question involved the use of the word "trust" in the title of some fifteen or more 3 per cent and 4 per cent common law "savings and loans" concerns which have sprung up in the state recently. These concerns are not to be confused with building and loan companies, although they are under the supervision of the state banking department.

The ruling denies the right of the companies to use the word "trust" in connection with their titles, on the ground that they were not doing a trust company business. The Bureau has received evidence that the public was being misled by the titles of such companies into the impression they were banks and trust companies. There were ten such companies doing business in Kansas City.

Another feature of the business of these companies, was that while they are based upon a so-called co-operative plan for getting funds to loan back to participants at 3 per cent and 4 per cent on first mortgage security, they required individuals desiring loans to sign a contract to pay in a stated sum each month until their "turn" comes to secure a loan.

**Large Hospital Planned for Kansas City.**

A new $1,200,000 hospital, differing from others in Missouri in that it will accept cases under all forms of treatment, and have a sanatorium designed to be a resting place for patients of those subscribing to treatment without the use of medicines or the knife, will be built in Kansas City, if the plans of the meeting of a large number of Kansas City physicians held Friday night are carried into effect. The faculty and alumni of the Kansas City University of Physicians and Surgeons are taking the lead in the enterprise. The meeting organized by electing Dr. A. L. McKenzie, president, and Dr. A. M. Wilson, secretary.

**Schools Encourage Saving for Home Building.**

To create an interest in saving, and bring the value of it home to the school children of the city and to their parents, the Anchor Savings and Loan Association of Kansas City is offering fifty dollars in prizes to the high school and grade school children for solving a simple problem in compound interest.

Here is the problem: If a man had started on his twentieth birthday, saving $5 per month in a savings association like the Anchor, where his money earns from the month put in, at six per cent per annum, compounded semi-annually, how much money would he have on his seventieth birthday? The first prize is $15; the second, $10; the third, $5, and the next 20, $1 each. Seventh grade pupils worked on the problem last week, but the correct answer was not sent in.

The Anchor Savings and Loan Association is authority for the statement that the savings associations in Kansas City alone grew during the last year five million dollars, supplying the money much needed for loans to home builders. It adds: "Woe betide the community that expects to grow but neglects to provide comfortable homes for its people. The healthy growth of any community is reflected in the growth of its savings and loan associations."

**St. Louis.**

The Ryffel & Ratz Plumbing Co., 4719 Delmar Avenue, has the contract to install plumbing in the $35,000 studio building to be erected at Spring and Finney Streets.

# Washington

### Seattle.

That the year 1922 will mark a definite and important revival in building construction in Seattle and the Puget Sound district is the confident prediction of real estate operators, contractors and men engaged in all lines of building trades. New construction, regarded as virtually "sure-fire" projects for the coming year and calling for an expenditure of $7,000,000, is already in sight. This figure does not include sums that will be spent in residence construction, small flat and store buildings, or in additions and alterations, but is the sum that will be involved in important new office and industrial structures.

The head of the largest real estate firm in the city sums up the reason for the realtors' belief in the coming year: "Seattle is better liquidated than most of the other cities of the same or larger size, therefore we are ready to start again. I make this statement, after a special examination of the facts as gathered from the statistics of many cities."

An interesting feature of the plans for 1922, and one which indicates reliably the restored faith of big investors in the city's future, is the number of extremely large building projects planned—structures involving more than a million dollars' investment. Another indication of the renewed building activities expected, is the increasing improvement in the lumber situation of the Pacific Northwest. Whereas in August of this year the West Coast lumber industry was "flat on its back," almost disorganized with hundreds of idle camps and lumber mills, the situation today shows that approximately 85 per cent of the lumber and shingle plants of the two states are in operation, with prospects of early return to a 3-shift working day. Lumbermen are now predicting that 1922 will be one of the big years for the industry, as a direct revival of building activities throughout the United States and Europe. A return to normalcy in the lumber industry spells a return of prosperity to Seattle and Puget Sound country, and business men in all lines are watching the lumber situation with the keenest interest.

One of the largest structures planned for early construction is the new $1,000,000 bank and office building to be erected by the Dexter Horton Estate on Third Avenue and Cherry Street. The structure will be 14 stories high, of strictly fireproof construction, and will be the first unit of a structure double in size that will replace the present New York block. John Graham, architect, L. C. Smith Building, has prepared preliminary plans which have been submitted to the city building department.

Another large downtown structure is the proposed addition of two stories to the Central Building at Third Avenue and Marion Streets, at a cost of $175,000. Architects Schack, Young & Myers, Lippy Building, are preparing plans for the addition, work on which will be started immediately.

### Other Cities in the State.

Despite the fact that the month of November is usually the quietest in the year in new building construction, reports from the larger cities throughout the state, particularly the Puget Sound country, indicate that the month's records for new building showed a marked improvement over a similar period in 1920.

The city of Tacoma's building department reports show that for the month the permits totaled 263, with a valuation of $180,542, as against 238 for November, 1920, with a valuation of $155,039. Of the total, $72,550 was expended on new residences in the city, which is considered an excellent indication that the home building campaign in Tacoma seems to be continued with marked force. Figures compiled by the building department show that for the first 11 months of 1921, 752 permits, valued at $1,572,615, were taken out for


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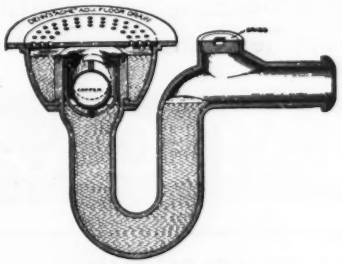

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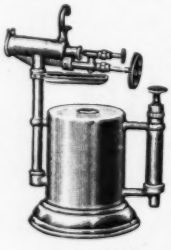

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residences in the city. The total permits for the 11 months were 4,428, valued at $3,126,785, a $1,000,000 decrease over the figures for 1920. This decrease is explained, however, by the fact that during 1921, no large projects were included, while 1920 included two large office buildings.

The school board of Kelso will hold an early election for the purpose of voting an issue of $72,000 in bonds for the erection of a modern fireproof high school structure, capable of accommodating 400 or 500 students.

James Tyra, Spokane, plans immediate erection of a two-story brick store building, 71x120 ft., to cost about $25,000.

The contract for installing plumbing and heating systems in the new Wahkiakum County court building at Cathlamet has been let to O. F. Volk, 315 South 9th Street, Tacoma, on a bid of $9,300.

Two new churches are planned for early construction in Spokane, one being the Plymouth Congregational Church to cost $40,000 and the Corbin Park Church to cost $30,00.

At a special school election at Woodland, a bond issue of $35,000, to erect a new high school, was carried. Construction will begin early in the new year.

# Oregon

**Portland.**

With still a month to go, the volume of building in Portland during 1921 already places 1921 in third place when compared with all the other years in the city's history. Figures issued by the building inspector's office show that permits have been issued for the first 11 months of this year for a total of 13,438 buildings, with an aggregate value of $16,371,521. Construction work contemplated in the city for which permits will be issued in December is expected to raise the total figures to near the $18,000,000 mark.

The banner building year in Portland's history was in 1910, when $20,886,202 in new building was undertaken. The building work in the city for 1921 is particularly significant, however, in that more residences were erected than ever before, and that $9,465,030 of the total building permits for the year were for home construction. It is expected that the year's total number of new homes will reach well over 3,000. The total construction for 1921 is already $4,000,000 in excess of the totals for the entire year of 1920, and this in the face of the fact that there have been no exceptionally large buildings built during the year—certainly none that would compare with two huge structures built during 1920. Plumbing permits for the 11 months of 1921 totaled 7,610, with a valuation of $1,715,033.

General contractors, plumbing and heating contractors and men in all lines of building activities, predict a continuation of the present building campaign, with a marked improvement early in the new year.

Oscar Weyman has been awarded the contract for foundation work on the proposed Fitzpatrick Building to be erected at Ninth and Burnside streets, at a cost of $80,000. The structure will be four stories high, 112x100 ft., of hollow tile and stucco.

Claussen & Claussen, architects, Macleay Building, will shortly complete plans for the new school building to be erected at West Linn, at a cost of $21,000. The structure will be 100x100 ft., one-story with basement, and will be equipped with modern plumbing and a steam heating plant.

Sturges & Sturges have recently received the contract for installing heating and plumbing in the proposed two-story building to be erected at Stark and 13th streets for A. A. Burkhart, at a cost of $20,000.

Robert A. Rippet will erect, at 16th and Oak streets, a two-story building to be used as a combination store and

apartment building. Two store rooms will cover the first floor, and the second will contain six apartments of four rooms each.

Plans for a six-story addition to the Emanuel Hospital, costing $350,000, have been completed by Architect Ernest Kroner. The structure will offer accommodations for 300 beds, and will be of reinforced concrete with brick facing. The construction of a heating plant, facing on Graham Avenue, will complete the group of buildings for the Emanuel Hospital.

**Other Cities in the State.**

Frank C. Clark, Medford, has prepared plans for a proposed addition to the Dow Association hospital that will more than double the present structure. New addition will be of fireproof construction, and it is expected work will be undertaken early in the year.

E. C. Maddock, Arlington, plans the construction of a 50-room hotel in that city. Associated with him will be Milton S. Block of La Grande.

At a recent election in Turner, a bond issue of $25,000 for the erection of a new high school building, was voted. The new structure will be strictly modern, and will be equipped with a gymnasium and an auditorium.

## California

**San Francisco and Vicinity.**

The California Master Plumbers' Association is going to hold its annual convention in Sacramento, from May 22 to 25, inclusive. During the convention the National Trade Extension Bureau is going to give a number of lectures and arrange definitely the matter of business education.

After the convention the city of Sacramento plans to give a public function in the nature of a delineation of the days of '49. This is in no way connected with the Master Plumbers' Association, but the association is taking an active interest in the event through the efforts of Secretary John L. E. Firman, who, being an old timer himself, is naturally interested as are several other members.

At the last meeting of the San Francisco Association, December 2nd, fifteen new members were elected to the Board of Directors and were installed the 5th of the month. President A. J. Wilson presided and after the installation of the new officers, turned the chair over to his successor, William P. Goss. The following officers were elected: Wm. P. Goss, president; E. P. Lacey, vice-president; Alex Coleman, treasurer; A. J. Silver, corporation secretary; John L. E. Firman, secretary, and A. J. Hahn, assistant secretary. At the meeting there was elected an apprenticeship committee, the business of this committee being to aid all the apprentices in the plumbing trade to become successful business men, besides being efficient plumbers. This committee is composed of Wm. P. Goss, J. H. Pinkerton and Joseph Rohr. They held a special meeting the 12th of the month, which was attended by about 45 apprentices. All were enthusiastic over the plans of the committee. Mr. Clark, superintendent of schools, was interviewed about the educational plan, and the matter is now in his hands.

Besides the above-mentioned officers, the new board of directors consists of W. E. Burnham, Joseph Beck, Frank Brody, Alex Coleman, F. J. Klimm, S. Petersen, J. H. Pinkerton, Joseph Rohr, Frank Sasso, Thomas Skelly and D. Turner.

The Ladies' Auxiliary of the Master Plumbers' Association is planning for its annual Christmas tree party. All the members and their immediate relatives are invited, and the children will receive presents.

The C. Petersen Co. is now building a new shop in Sixth Street near Harrison. The plans call for a reinforced concrete structure with a frontage of 40 ft.


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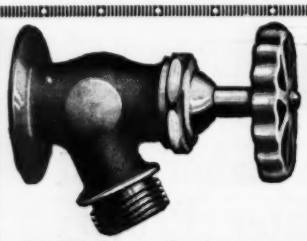

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**Los Angeles.**

The Los Angeles building record continues to grow. There may be a slowing up with the advent of the holidays, but so far this month all past records have been broken. Building permits for the first eight working days have averaged 186 per day, or a total of 1,489. These building permits represent a valuation of $4,003,824.

Glenn O. Winget, Wilshire Building, was low bidder at $31,924 for constructing an addition to the Griffin Avenue school building. The Marshall-Lock Co. was awarded the contract for the plumbing at $7,694, and J. Hokum was awarded the heating contract at $5,113.

Plans are being prepared for a one-story eight-room store building, 110x90x60 ft., on Hollywood Boulevard and Alexandria Avenue.

Robert E. Millsap, 423 Marsh-Strong Building, has the contract at $34,940 for a one-story brick building, 50x300 ft., to be erected on Olive Street.

The Ajax Construction Company has prepared plans and has the contract, at $125,000, for a bungalow court of thirty-two units and a public garage, to be erected at the corner of First Street and Vermont Avenue, for Morgan & Martin. The bungalows will contain four rooms each.

The Lilly-Fletcher Company has the contract for a $35,000 building to be erected at Washington Street and Arlington Avenue for Jane M. Kennedy. The building is to be two stories, 65x80 ft., with a one-story wing, 32x60 ft.

Los Angeles is to have a $2,000,000 warehouse with sixteen acres of floor space to be built by the Los Angeles Rock and Gravel Company on Avenue Twenty-sixth, River Street and Lacy Street.

Elliott Lee Ellingwood, 338 I. W. Hellman Building, has been commissioned by the board of education to prepare plans and to supervise the installation of the plumbing, heating and ventilating systems in the Sentous junior high school, Berendo junior high school and Euclid Avenue, Fremont Avenue, Twenty-fourth Street and Logan Street grammar schools.

Sam Kaufman has opened a plumbing shop at 2439 Folsom Street under the firm name of the Royal Sanitary Plumbing Shop.

A. W. Ross, 1007 Haas Building, has been awarded the contract to erect a $50,000 three-story brick loft building 100x126 ft., on Maple Avenue between Ninth and Tenth Streets, for W. A. Faris.

Five stores and four four-room apartments are to be erected at Vermont and Twentieth Street for W. D. Johnston. The building is to be of brick construction, two stories, 50x90 ft., and will cost $25,000.

Architect Norman F. Marsh is preparing plans for a new school building for Garvanza on Avenue Sixty-two. There will be ten units with auditorium to seat five hundred persons.

Architect John J. Frauenfelder is preparing plans for a two-story hollow tile addition to the Bimini Baths. The addition will be used by the Turkish bath department.

Architects Dodd & Richards are preparing preliminary plans for a one-story and part two-story brick building to be erected on Hope Street near Seventh Street, at a cost of $35,000. It will be 60x165 ft.

A twelve-story bank and office building, 112x118 ft., is to be erected at the northwest corner of Seventh and Olive Streets for the Bank of Italy. Morgan, Walls & Morgan are the architects.

**Pasadena.**

Harold H. Martin has prepared plans for a two-story fourteen-room frame and plaster residence to be erected on Arlington Drive and Pasadena Avenue, for J. Durand Kennett. Plans include one plain and two tiled baths, and a two-car garage with toilet.

Philip M. Stone, 1541 North Raymond Avenue, is having plans prepared for a $150,000 five-story reinforced concrete

hotel building to be erected at Sixth Street and Pacific Avenue, San Pedro.

The Littleton Company, Pasadena, has prepared plans and will erect a $20,000 two-story eighteen-room frame apartment building at 814-20 South Lake Avenue for Dr. C. T. Green.

**Long Beach.**

J. W. Davidson, 361 Walnut Avenue, was the lowest bidder at $67,987 on the general contract for the erection of an additional unit at the Horace Mann school site, Long Beach. The Long Beach Plumbing Co. was awarded the plumbing at $7,099.

Architects Piper & Kahrs, 38 Locust Street, have completed plans and are receiving bids for the erection of a one-story store building to be erected at the southeast corner of Tenth Street and American Avenue. The building will contain seven stores.

J. B. Green is having plans prepared for a $30,000 two-story store building to be erected at 321 East Fourth Street to be occupied by the Hulin Furniture Company.

Miss Julia Morgan, San Francisco, is preparing plans for remodeling the Y. M. C. A. building at 123 Locust Avenue for converting it into a club house for the Long Beach Y. W. C. A., including sleeping rooms for fifty persons, parlors, lockers, club rooms, showers, basement, cafeteria and gymnasium. Bids will be received about February 1st.

The Ballard Construction Company has a contract for erecting two sixteen-room buildings, one at 4035 Livingston Drive, Long Beach, and the other at 107 Belmont Avenue, for Mrs. Daisy M. Burns. The structures will cost approximately $32,000.

## THE PROVINCE OF ONTARIO.

**Toronto.**

Plumbing and heating contracts awarded locally include the following: Byrne Bros., plumbing contract for new rooms at St. Brigid's school; McNaughton & McKenzie have plumbing and heating contracts for residence for Dr. J. F. Ross; John Fraser has plumbing and heating contracts for residence and garage for E. M. Hoare; B. J. Miller & Co. have plumbing and heating contracts for residence for Mrs. Sprague; R. J. Ritchie has plumbing and heating contracts for bungalows for P. Sykes; also for residence for W. Law; B. J. Miller & Co. have plumbing and heating contracts for residence for Mrs. Sutherland; A. Shanks has plumbing contract for residence for Sharpe & Huff, heating contract is placed with Howard Plumbing & Heating Co.; Mechanical Trades Ltd. have contracts for plumbing and heating of $35,000 residence; W. H. Miles & Co. have heating and plumbing contracts for store and apartments for A. Calderone; L. J. Harris has plumbing and heating contracts for pair of stores and apartment building for Chas. Lennox; A. J. Wise Heating & Plumbing Co. has heating contracts for two stores and apartments, costing $10,000 each, for G. F. Bennett; Mechanical Trades Ltd. have $41,979 contract for plumbing and heating in connection with North Toronto High School extension.

**Other Cities in the Province.**

Windsor Plumbing & Heating Co., Windsor, has plumbing and heating contracts on bank and apartments for the Royal Bank.

Gervin & Hodgins, Ottawa, have plumbing and heating contracts on residence for Miss Duhamel; also plumbing contracts for residence for W. H. Lee, for which heating contract has been awarded to Capital Hardware Co.; A. J. Wil-

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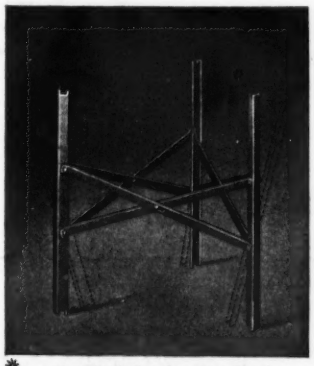

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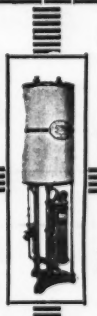
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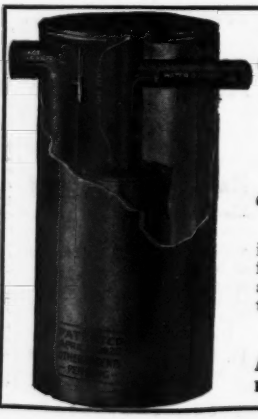

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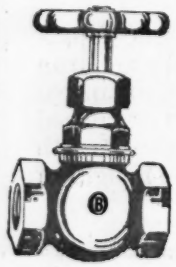

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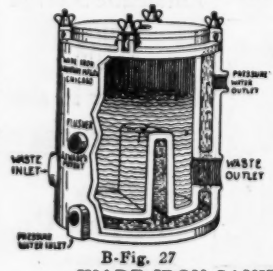


B-Fig. 27

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liams has plumbing contract for residence for L. McFarland; Gervin & Hodgins have plumbing and heating contracts for residence for Thos. Switzer.

Wright Teale Co., of London, has plumbing and heating contracts on residence for H. Langford; W. J. Green has heating and plumbing contracts on residence for A. Hambleton; Wm. Stavely & Son have heating contract on two dwellings erected by G. Waide.

H. J. Martinson, Cottam, has the heating contract on the Baptist Church.

The Essex Border Utilities Commission of Windsor has been studying a plan for the construction and operation of a joint system to supply the whole district with properly filtered water instead of the dirty water which is now coming from the taps.

Sheehy Bros., Woodstock, Ont., will install complete heating system in new addition to paper plant of Abitibi Power and Paper Co., Iroquois Falls, Ont.

The installation of sanitary devices on the installment plan by the city is being undertaken by Peterboro. This plan has been recommended by the Board of Health of the province in order to have sanitary arrangements installed in several houses whose owners are financially unable to undertake the work. Payments will be spread over a number of years. The plumbing inspector is preparing plans for the work.

The Utilities Commission, of Peterboro, claims to have saved over $15,000 in connection with laying mains for local filtration plant. Six-inch mains have been laid instead of ten-inch as originally planned, at a cost of $23,586.

The City Council of Peterboro has agreed to the order of the Ontario Board of Health calling for the construction of sewage disposal works of the activated sludge type. The city engineer has been instructed to prepare plans.

A special committee has been appointed by the Chamber of Commerce of Chatham to investigate the advisability of having city swimming pools. Acting manager W. R. Landon of the Chamber of Commerce has been selected to secure information on the subject for the committee.

Building in most parts of Western Ontario is expected to be quite active early next year judging from permits being taken out and plans under way. These include several large undertakings such for instance as the new $1,500,000 Canada Hotels, Ltd., hotel to be erected in London. A group of new buildings to cost about $1,000,000 are to be built in connection with the Western University in that city and a number of schools are to be built at an estimated cost of $300,000. Between $2,000,000 and $3,000,000 worth of new residences are expected to be started in London and vicinity, according to permits being taken out. This year's total for this city was $2,500,000, and much work was held over due to high costs. Plans calling for a $500,000 seminary were laid over by Bishop Fallon due to high costs but work is to be started in the spring. He also states that a large church is to be erected in Chatham in the spring, and Silverwood, Ltd., will erect a new plant in Chatham.

## Pprovince of Quebec.

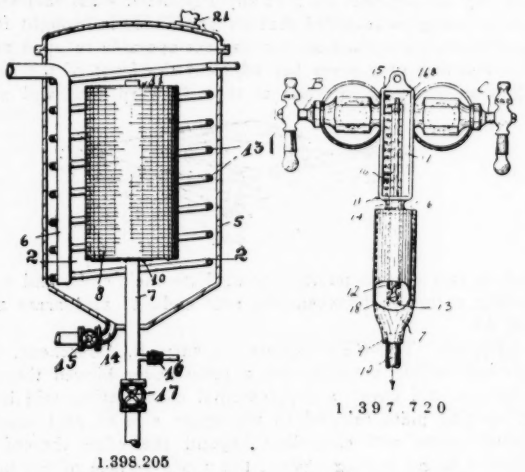
### Montreal.

Recent contracts let include the following: Canadian Bank of Commerce building, Victoria and Sherbrooke streets, plumbing and heating, Martin Quigley; eight residences in St. Lambert, cost $36,000, plumbing and heating, M. J. Quigley; residence, $25,000, Mount Pleasant Avenue, Westmount, plumbing and heating, John Colford; two cottages, $22,000, Beloeil Avenue, plumbing and heating, White & Delaney; two residences, $16,000, Melrose, plumbing and heating, McAulay & Tucker; residence, $15,000, Cote des Neiges Road, plumbing and heating, Riopelle & Blanchard; cottage, $14,500, De l'Epee Avenue, plumbing and heating, Conroy Bros.; stores, $12,000, 2055 St. Catherine Street E., plumbing and heating, J. Demers.

# Patents

**Plumbing Department.**

1,398,205. Filter. Charles W. Sirch, Los Angeles, Calif. In a filter in combination with a casing, an inlet pipe and a perforated outlet pipe provided on the casing; a filtering medium comprising layers of fabric and spacing means disposed between the layers of fabric and spacing means forming the supporting member of the medium and having means for attaching the whole width of the medium at one edge to one side of the outlet pipe of the casing so as to allow a winding of the medium for several times around the pipe.

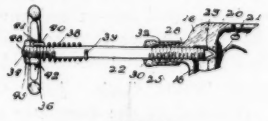


1.398.205



1,397,720

1,397,720. Thermometer Attachment for Faucets. Archie S. Campbell, St. Johnsbury, Vt. As an article of manufacture, an attachment for faucets comprising a receptacle including a top and bottom, the bottom of said receptacle extending downwardly and forming an outlet, the top of the receptacle having an opening adjacent its forward portion, and an opening adjacent its rear portion, a thermometer disposed in said forward opening and extending interiorly and exteriorly of the receptacle, an inlet pipe disposed in the rear opening, and connecting means carried by said inlet pipe for detachably connecting said receptacle to the faucet.



1,397,814

1,397,814. Blowtorch-Valve. Frank K. Low, Milwaukee, Wis. A device of the class described comprising a casing having a valve seat, a valve stem threaded into said casing and having a head adapted to engage said valve seat, the rear end portion of said valve stem being screw threaded, a handle threaded on said stem at the rear portion of the same, a nut secured on the rear portion of said valve stem rearwardly of said handle and adapted for limiting the rearward movement of the handle, and a contractile coil spring surrounding said valve stem and having its end portions anchored to said valve stem and said handle for yieldably connecting the handle to said valve stem.

1,398,747. Water-Heater. Samuel C. Smith, Chicago, Ill., assignor of one-half to Loran L. Hoffmann, Chicago,


**Burman "Unit" Laundry Faucet**

***Simplifies Laundry Tray Installations***

Two valves take the place of four faucets, eliminating a lot of pipe, fittings and pipe carriers.

The "Unit" supplies water of temperature desired to either tray, by shifting spout.

Costs less to install, is more convenient to use, lasts as long as the tray and makes a better looking job.

Furnished with hose attachment.

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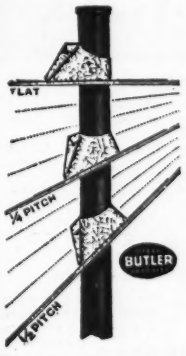
**THE OVERTON**




Adjustable Roof Flashing is in a class all its own.

A special feature is the "V" which forms a metal spring. This assures a perfectly air-tight joint.

Hugs any pipe—water tight—fits any angle. Adjusts itself without turning or twisting.

Galvanized iron or copper.

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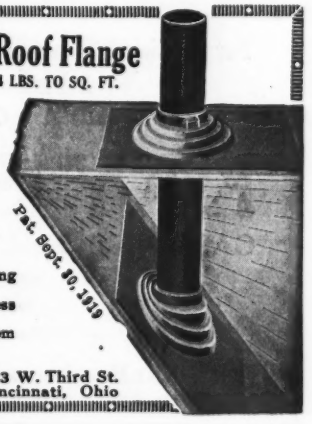
Minneapolis, Minn.

**Retlaw Telescopic Roof Flange**

**A ONE-PIECE LEAD FLANGE, 4 LBS. TO SQ. FT.**

Drawn into circular corrugations.
Extremely pliable—no seam.
Allows for settling of roof or pipe.
Adjustable to any angle.
Allows for contraction and expansion.
Collapse one side—draw out other.
Draw up band, compressing lead around pipe.
On like a flash—costs less than hand made.
Ask your jobber about them or write us for particulars.

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No. 250

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Just the seat for that office building or factory job. It has an adjustable spring tension. A spring shock absorber that takes all jar and strain from the bowl. A stop that keeps the seat from striking fixtures in back and a "BRE HYGIENIC" seat.

Get our special prices for your show room or window display.

**BRE MFG. CO.**
Hyde Park Dist., Boston, Mass.

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You have seen our S. & K. "Rainbow" Fixtures that have been so widely advertised in this paper. Of course you have. Well, here is a new one for wall lavatories to fit under low shelf, or medicine cabinet. Designed especially for private residences and apartment buildings. Price $18 each.

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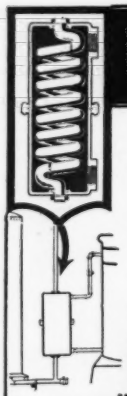

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NO EXTRA EXPENSE

EASILY connected to outside of steam, vapor or hot water boiler; does away with fuel-wasting coil in fire pot. Uses surplus heat of boiler. Does not overheat or underheat. Will not burn out, once installed.

An unusual opportunity for live dealers. Order now and be prepared for the demand being created. We furnish co-operation and practical sales helps to give you full benefit of our national advertising. List price, $16.00.

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*"Makers of Heaters that Heat"*
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*We also make a complete line of Gas and Kerosene Water Heaters.*

For Heating Steam or Hot Water Radiation
## WITH GAS
*Best Results Are Obtained With*
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GAS FIRED HEATING BOILERS

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*For Buildings With or Without a Cellar*

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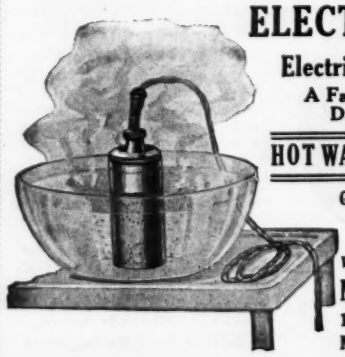

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Electric Water Heater
A Faithful Servant, Day or Night.

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Guaranteed never to burn out.

A profitable line for the dealer.

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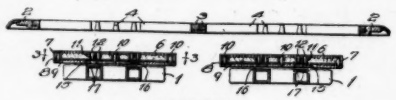
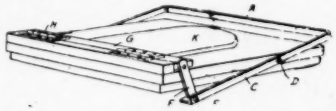
MILWAUKEE, WIS.


Ill. A water heating attachment, comprising a chamber consisting of two parts, a water inlet to said chamber and a water discharge leading therefrom, one of said parts having extensions projecting therefrom, a plurality of separated vertically disposed flues passing through said extensions and through apertures in alinement with the flues in the other part forming said chamber, the flues receiving heating gases to intensely heat water surrounding the projecting parts prior to the discharge thereof.



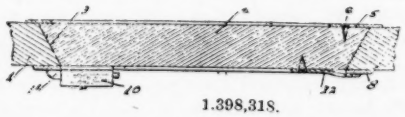
1,398,747.

1,398,556. Automatic Opening Mechanism for Closet-Seat Lids. George Edward Kinch, Quirindi, New South Wales, Australia. The combination with a closet seat of an automatically closing seat lid pivotally supported from said seat, said lid being so balanced that its upper side is brought forward in the open position, mechanism operable to open said lid, consisting of a press bar adjacent the front of the seat, side arms carrying said bar at their forward ends and pivoted to said seat at points intermediate their ends, and connecting members between the rear ends of said arms and said lid.



1,398,556.

1,398,318. Toilet-Seat Cover. Henry B. Courchene, Ill. In combination, a toilet seat, a main cover hinged thereto, a hole in said cover, a supplemental cover fitting said hole, an annular plate secured to the upper side of said supplemental cover and extending beyond the edge thereof to afford a flange seating against the upper surface of the main cover, an annular plate secured to the lower surface of the main cover closely adjacent to the edge of the hole, an offset clip secured to the under face of the supplemental cover and overlying said last-named annular plate, a spring-pressed latch secured to the under face of said supplemental cover diametrically opposite said clip, the spring-pressed member thereof overlying said last-named annular plate, and means accessible from the under face only of the cover for retracting the spring-pressed member of said latch.

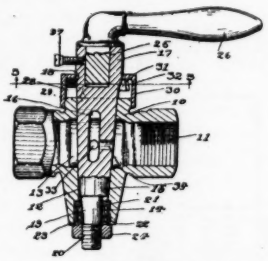


1,398,318.

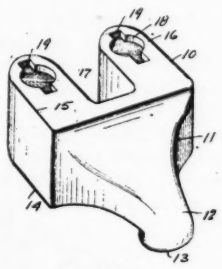
1,398,329. Stop or Waste Cock. John Granville King, Pine Bluff, Ark. A valve of the character described comprising a valve casing having a tapering valve seat, a tapering valve core fitting said seat, a spring operatively engaging the lower end of the core and urging the valve core downward in the seat, the upper end of the valve casing being formed with an upwardly projecting lug having an undercut beveled end face, and a cap engaging over the valve core and rotating therewith, the valve core being provided with a shoulder upon which the cap rests, said cap inclosing the lugs on the valve casing and being provided with an inwardly projecting lug having one end beveled to engage with and wedge beneath the undercut beveled face of the lug on the valve casing whereby to urge the valve core downward in the valve casing when the valve is turned to one position and the lugs engaged.

1,398,941. Bath Combination and Nozzle. Benjamin Franklin Gable, San Francisco, Calif. A hollow tile block

having means for attachment to water service pipes and having on its front face a discharge mouth from its chamber and means in the block for mixing streams from the pipes before discharge at the mouth.

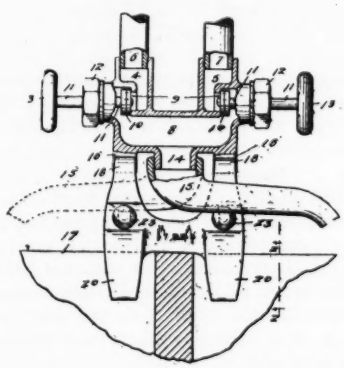


1,398,329.



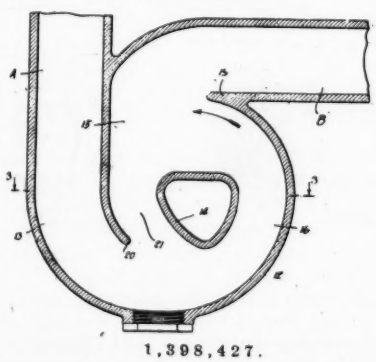
1,398,941.

1,398,767. Faucet and Attaching Bracket. Olof S. Burman, Minneapolis, Minn. The combination with a faucet having a swinging nozzle, of a support, and an attaching bracket having pairs of clamping jaws engageable with the faucet on each side of the swinging nozzle and with the support.



1,398,767.

1,398,427. Non-Siphonable Trap. Daniel A. Gillen, Flushing, N. Y. The herein described non-siphonable trap comprising a vertical inlet, a horizontal outlet, and a vertically arranged curved passageway communicating directly with the inlet and indirectly with the outlet and all in the same vertical plane, the width and capacity of the main curved



1,398,427.

passageway being less than that of the inlet or the outlet, a hollow transversely tubular deflector within the curved structure and around which the main flow takes place, the structure above said deflector constituting a body of a large capacity just within the outlet, a sealing lip at the lower end of the inlet, and a by-pass between the sealing lip and said deflector.

For precision of manufacture and for absolute reliability

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**BRASS GOODS**

have stood unrivaled for more than three generations.

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**Tank Fittings of Quality**

**1856 "McSHANE" 1921**

The ORIGINAL Compound Lever Ball Cock
Elevated, Low-Down, Top and Bottom Supply
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***No. 100 Complete Two Valve Shower***

Send for Catalog No. 21 illustrating complete line of showers and bath fixtures

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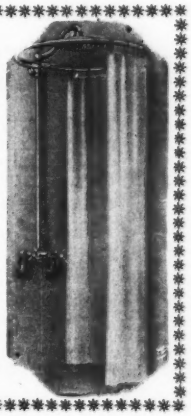
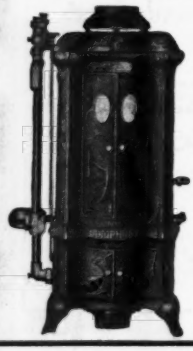


**A Household Word**



The name "Humphrey" in connection with Automatic Gas Water Heaters is known the country over. The dealer and plumber who sell it get the advantage of this prestige which results in easy sales and satisfactory service.

Try the Humphrey on your next water heater job.

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**HUMPHREY COMPANY**
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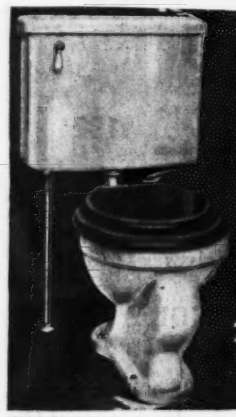

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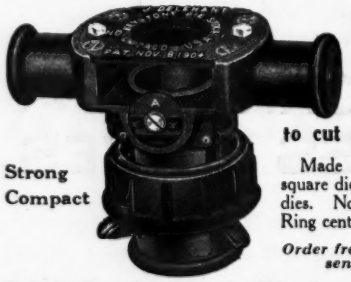
ZWERMANN COMPANY
Robinson, Illinois

**Prices Reduced Dec. 1st**



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**is guaranteed to cut straight threads**

Strong
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Made for Armstrong and square dies. Easy to change dies. No bushings to lose. Ring centers pipe.

*Order from your Jobber or send direct to us*

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**A Dependable Valve**
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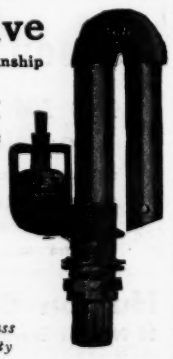
The N. H. Tank Valve is guaranteed to operate all properly designed siphon closets and give the utmost of satisfaction.
All our valves are full size.



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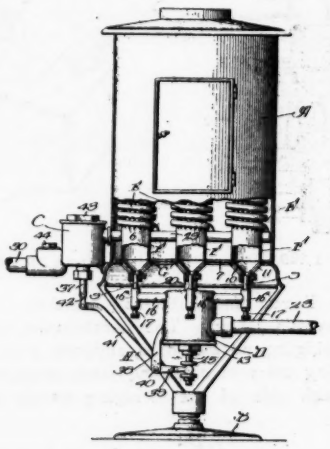
EXETER, N. H.
New York Office: 50 Cliff Street
Henry Stein, Representative

*We also make a large variety of Cast Brass Goods for Water, Steam, Gas and Electricity*


1,398,755. Water-Heater. Claude H. Toombs, Geneva, Ill., assignor to The Toombs Manufacturing Company, Geneva, Ill., a corporation of Illinois. In a water heater, the combination of a plurality of water heating coils, burners for said coils, a gas chamber having a head provided with gas

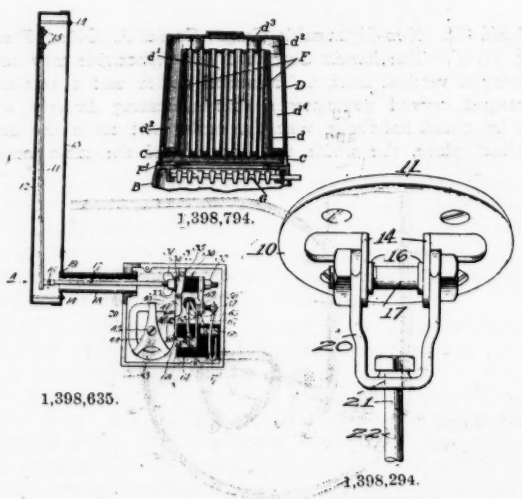


1,398,755.

conduits leading to said burners and gas ports communicating with said conduits, and a gas valve normally closing said ports and serving when closed to prohibit communication between the conduits.

**Heating Department.**

1,398,635. Thermostat. Harrison H. Fogwell and John M. Morris, Los Angeles, Calif. A thermostat for use with a hot water tank comprising a thermostat case adapted to be clamped in good thermal contact with the outside of said tank at a point intermediate of the height thereof; a thermostatic element in said case; a switch case; a switch in said switch case; and means by which said thermostatic element operates said switch.



1,398,794.

1,398,635.

1,398,294.

1,398,794. Boiler for Steam and Hot-Water Heating. Joseph Warren Piper, Lowell, Mass. A house heating boiler having a fire chamber provided with recesses at the bottom thereof and with a transverse water containing division adapted to segregate the water therein from the circuit of the house, and comprising a series of spaced water-tubes running from the top of said chamber downward and connected at their lower ends to a horizontal water-tube having closed ends secured in said recesses to prevent lateral displacement.

1,398,294. Adjustable Pipe-Hanger. Hjalmar G. Carlson, Worcester, Mass., assignor to Rockwood Sprinkler Company of Massachusetts, Worcester, Mass., a corporation of Massachusetts. A pipe hanger comprising a sheet metal supporting plate for attachment to a surface and having a surrounding rim adapted to engage that surface, and provided with screw holes for receiving attaching screws, the plate having two perforations therethrough, the metal cut out being bent at an angle to the plate into parallel position and perforated to form supporting lugs, a pivot bolt supported in the last-named perforations, and a hinge member pivoted on said bolt for supporting a pipe hook, said hinge member being of U-shaped construction and engaging the outer surfaces of said supporting lugs, and the metal surrounding that punched from the lugs, being forced inwardly so as to form a circular flange surrounding each perforation on the inner side to strengthen the lug and increase the length of the bearing for the bolt.

### Late News From Massachusetts.

At a meeting of the North Suburban Master Plumbers' Association, comprising the cities of Malden, Medford, Everett, Melrose, Revere and the towns of Wakefield, Stoneham and Reading, held at the association rooms in Malden December 8, D. L. Hanson, of the National Trade Extension Bureau, was the chief speaker. He spoke on the cost of doing business, the drawing power of the dollar judiciously spent in advertising and presented many charts illustrating his address.

The T. J. Murphy Co., Cambridge, has been awarded the plumbing contract for the mansion house to be erected by Mrs. R. W. Sears at her estate in Brookline. The structure will be one of the most imposing residences in New England. Werner Nygren, 101 Park Avenue, New York City, is the steam engineer in charge of the heating and has received bids but the contract has not yet been awarded. The mansion house is the only structure of the extensive group of modern farm buildings to be erected on the large estate on which contracts have been awarded. The remaining contracts will be awarded by the architect, Walter Bradley Kirby, 527 Fifth Avenue, New York City,

Plans for the new Junior High school for the city of Newton have been completed by Architects Brainerd, Leeds & Kellogg, Boston, and the general contract has been awarded Martin W. Ryan, of Cambridge. The sub-contracts have not yet been awarded. The structure will cost about $215,000. It will be of brick and have three stories.

The United States Government, Treasury department, is to build a $500,000 sanitarium at Rutland. No contracts for plumbing or heating have been awarded. M. Seretto, of 3 Tremont Street, Boston, has been awarded the general contract. Sub-contracts will be awarded by the supervising architect, J. A. Wetmore, Treasury department, Washington, D. C., within a few weeks so that construction work may start in the spring.

The General Building Co., Boston, will award sub-contracts for the $55,000 additions to the clubhouse of the Longwood Cricket Club at Chestnut Hill, Brookline. Putnam & Cox, of Boston, are the architects.

Paul H. Moore, of Oak Street, Danvers, has purchased the plumbing business of Ralph F. Putnam, formerly known as the Ropes Plumbing Co., which was established in that town in 1840. The new owner has for some years been associated with Humphrey & Fitzgerald of Marblehead, Mass., and has been in charge of much of the work for that company in Danvers and vicinity. He is a veteran of the World War and has taken an active interest in affairs of the town.

Contracts have been awarded for three new apartment houses in Springfield. The plumbing contracts have been awarded to E. J. Barbeau for the apartments at 282 Shrewsbury Street; to T. J. McManus for those at 58 Wall Street, and to H. M. Shaughnessy, for those at 53-55 High Street.


**Lowest Fuel Cost**

and constant hot water supply is the service you deliver with the installation of the

**Little Hercules Water Heater**

You should know its special features—all good selling points

*Catalog on request*

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LITTLE HERCULES
Supplied through jobbers

CONTINENTAL BRASS AND FOUNDRIES CO.
St. Louis, Mo. Belleville, Ill.
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*SOMETHING ENTIRELY NEW IN*

**SILL-COCKS**

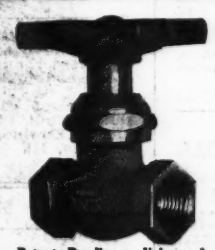
STYLE N

Semi-Finished, Polished aluminum wheel Style N. Style O—Heavy rough pattern built for service.

Both shown in catalog D

STYLE O

*KINSEY & MAHLER CO.* *Peoria, Ill.*



Patents Pending on Valve and Manufacturing Process

**"PIONEER"**
**The Ultimate Cock**

Cost no more than the ordinary kind

*Manufactured in Wheel or Lever Handle*

**Pioneer Alloy Products Co., Inc.** 16601 Euclid Avenue Cleveland, Ohio

*Representatives in Principle Cities*

**The DETROIT Torch**

**A Marvel for Service and Durability**

Highest quality brass tank, heavily reinforced, powerful improved burner, strong, efficient pump, hook and support for holding soldering coppers.

This torch eliminates the troubles that attend the use of the old-style torch.

*Get a "DETROIT" from your jobber. You will be more than pleased with it.*

**Detroit Torch & Mfg. Co., Detroit, Mich.**

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WANTED AS PARTNER—A HIGH grade manufacturers' representative established on the Pacific coast and selling to jobbers only. Must be a high type of salesman and have the respect and confidence of buyers. I have complete line of enamel ware, heater, pump and other staple and specialty goods, that will total sales over $1,000,000 yearly. No investment required but only men of financial responsibility considered. Quick action necessary. Address 458, "Domestic Engineering," 1900 Prairie Ave., Chicago. 12-24-31

SALESMAN WANTED—CAPABLE OF selling west of Mississippi a well established Vapor Vacuum Heating System. Practical and technical knowledge and experience required. Excellent opportunity for man with real selling ability. Address 456, "Domestic Engineering," 1900 Prairie Ave., Chicago. 12-24

WANTED — MAN TO REPRESENT one of the leading pipe machine and pipe tool manufacturers. Address all replies to Columbus Machine Works, 310 W. 5th St., Columbus, Indiana. 12-24

WANTED—WE ARE OPEN FOR salesman and manufacturers' agents to sell a line of high grade Plumbers' Brass to the jobbing trade. Address 457, "Domestic Engineering," 1900 Prairie Ave., Chicago. 12-24

WANTED—BY A RESPONSIBLE heating and ventilating concern in New York City, a capable and accurate heating and ventilating engineer and estimator; one who can take off his quantities accurately on both large and small work. In answering this advertisement please give all information, such as salary expected, experience, etc. Address 455, "Domestic Engineering," 1900 Prairie Ave., Chicago. 12-17-24

**SALES MANAGER.**
**HIGH CLASS, TO TAKE COMplete charge of sales department. Must be experienced in plumbing supply business. Give reference and full particulars first letter. All communications confidential. The Pfau Mfg. Co., Cincinnati, Ohio. 12-24-31**

WANTED—TWO HIGH CLASS SALESmen to travel in Mississippi for a large Plumbing, Heating and Mill Supply House. Must be thoroughly experienced and well qualified. State age, references and salary expected. Address Key 436, "Domestic Engineering," 1900 Prairie Ave., Chicago. 12-10/31

WANTED—EXPERIENCED SUCCESSful salesman who is acquainted with and has sold jobbers of Plumbing Supplies and Steam Goods in New York City territory; also New England territory; either or both. Good opportunity with established well known standard line. What have you to offer? Address 442, "Domestic Engineering," 1900 Prairie Ave., Chicago. 12-10/31

WANTED—PLUMBING SALESMAN to carry plumbing specialty as a side line, on commission basis. Address 400, "Domestic Engineering," 1900 Prairie Ave., Chicago. 10-8

## Situations Wanted

EXECUTIVE
MARRIED MAN, 36 YEARS OLD. Broad gauge, capable, energetic, with excellent record of achievement. Long experience in general management (organization, finance, buying and selling, auditing, credits). Have had ten years experience in plumbing and heating supplies, both manufacturing and jobbing ends. Well acquainted with manufacturers and jobbers and the plumbing and heating trades through central west, inter-mountain west, and the Pacific coast. Best of references. Will be at liberty after Jan. 1, 1922, and solicit confidential correspondence with manufacturers or jobbers interested. Initial salary of less importance than permanent connection offering reasonable opportunity for merited progress. Address 452, "Domestic Engineering," 1900 Prairie Ave., Chicago. 12-17

SITUATION WANTED — SUCCESSFUL heating man would like to connect with some concern, can serve in any capacity. Sales work, engineering or managing. Good personality and fluent talker. Address 459, "Domestic Engineering," 1900 Prairie Ave., Chicago. 12-24

## For Sale

FOR SALE—A FIRST-CLASS PLUMBing and heating business in a large city, less than 100 miles from Chicago. Has good jobbing trade. Good opportunities to right parties. Estimated amount of capital needed to handle same about $4,000. Address 454, "Domestic Engineering," 1900 Prairie Ave., Chicago, Ill. 12-17-24

## Miscellaneous

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SELL YOUR SURPLUS COUPLINGS and fittings. Write us. The A. & J. Mfg. Co., 557 W. Lake St., Chicago. tf

## Government Proposals

TREASURY DEPARTMENT, SUPERvising Architect's Office, Washington, D. C., December 19, 1921.—Separate sealed proposals will be opened in this office at 3 p. m., January 16, 1922, for an ice making and refrigerating plant for the U. S. Quarantine Station, New Orleans, La. Drawings and specifications may be obtained at this office in the discretion of the Supervising Architect. Jas. A. Wetmore, Acting Supervising Architect. 12-24

TREASURY DEPARTMENT, SUPERvising Architect's Office, Washington, D. C., December 15, 1921.—Sealed proposals wil be opened in this office at 3 p. m., January 12, 1922, for new hot water piping, etc., in the United States Mint, Philadelphia, Pa., in accordance with specification and drawing, copies of which may be had at this office or at the office of the Custodian, Philadelphia, Pa., in the discretion of the Supervising Architect. Jas. A. Wetmore, Acting Supervising Architect. 12-24-31

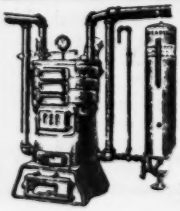
## Books for Your Trade Library

**PRINCIPLES AND PRACTICE OF COST ACCOUNTING. By F. H. Baugh. Presents a modern method of accounting for the plumber and steamfitter. A text and form book for those who would become expert in keeping track of selling costs, overhead expense, depreciation, administrative expense, etc. Illustrated by numerous forms. Size 6x9 in. 194 pages. Half leather. Price, $3.00.**

BOOKKEEPING AND COST FINDING FOR THE PLUMBER. By Wesley A. Fink. Outlines a simple method of bookkeeping and cost finding easily adapted to your business. Tells how to open and close a set of books, gives concrete examples on figuring labor and material costs, overhead expense—in fact a complete system worked out in every detail. Size 4½x6¾ in. 128 pages. Cloth. Price, $1.00.

NOTES ON HEATING AND VENTILATION. By Prof. John R. Allen. A text book on the known methods of heating and ventilation, covering warm air, steam, hot water and vapor and approved methods of ventilation. Among the subjects covered are rules for figuring heat loss, direct and indirect systems, warm air furnaces, fan blast and air-mixing systems, auxiliary devices for heat control. Illustrations are especially numerous and well made. Size 6x9 in. 228 pages. Cloth. Price, 2.50.

**Domestic Engineering**
**1900 Prairie Avenue, Chicago**



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